DOCUMENT RESUME

ED 271 915 EC 190 223

AUTHOR Woolcock, William Woodrow
TITLE An Experimental Analysis of General Case Simulation Instruction and the Establishment and Maintenance of Work Performance in Severely Handicapped Students.
INSTITUTION Pittsburgh Univ., Pa.
SPONS AGENCY Special Education Programs (ED/OSERS), Washington, DC.
PUB DATE 85
NOTE 217p.; Ph.D. Dissertation, University of Pittsburgh. Some illustrations contain small type.
PUB TYPE Dissertations/Theses - Doctoral Dissertations (041) -- Reports - Research/Technical (143)

EDRS PRICE MF01/PC09 Plus Postage.
DESCRIPTORS Adults; *Generalization; Job Skills; Moderate Mental Retardation; Secondary Education; *Simulation; *Training Methods

ABSTRACT

This doctoral dissertation examines the extent to which general case simulation instruction on a janitorial task sequence and a housekeeping task sequence conducted with four secondary and postsecondary age persons with moderate mental retardation resulted in generalized performance. A multiple baseline design across subjects and behaviors was used to assess subject performance in simulation instruction, on concurrent and subsequent actual job probes, and in actual job instruction. Data indicated that simulation instruction on two representative teaching examples for each of two job task sequences resulted in concurrent generalized performance on six response examples for each task sequence, and in subsequent improvements in job entry skills which were maintained and extended during actual job instruction and instructor withdrawal phases. Results are discussed in terms of potential uses and misuses of general case simulations of community job skills. An extensive literature review of 57 items is included on: (1) high school programs for the severely handicapped students; (2) adult vocational and nonvocational day placements; (3) alternatives to the continuum of services; and (4) generalization. A short version of this document (26 pages) prepared for journal publication, and authored by William Woodrow Woolcock, Steven R. Lyon, and Karin P. Woolcock, is appended. There are textual and reference differences between the two documents. (Author/CL)

AN EXPERIMENTAL ANALYSIS OF GENERAL CASE SIMULATION INSTRUCTION AND THE ESTABLISHMENT AND MAINTENANCE OF WORK PERFORMANCE IN SEVERELY HANDICAPPED STUDENTS

By

William Woodrow Woolcock

B.S. in Ed., Slippery Rock State College, 1976

M. Ed., University of Pittsburgh, 1982

Submitted to the Graduate Faculty in the School of Education in partial fulfillment of the requirements for the degree of Doctor of Philosophy

University of Pittsburgh

1985

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

The transition from high school or sheltered adult day programs to an actual job in the community requires an individualized job training program in which a severely handicapped individual is provided one-to-one on the job instruction and consistent follow-up services to obtain and retain employment. High school graduates and adults previously enrolled in programs which do not emphasize the teaching of the vocational skills relevant to specific community jobs may, however, require extensive instruction and follow-up services to learn and maintain the skills and behaviors needed in a community work placement.

Vocational skills which are specific to the skill requirements of a particular community job may be taught in the classroom by presenting severely handicapped individuals with stimulus and response requirements which are similar to those encountered on the job. Classroom simulations of specific job requirements may, therefore, incorporate a general case approach by providing instruction on the stimulus/response variations encountered on a specific job. Through instruction on simulations of the range of stimulus/response requirements, specific job skills may be generalized to actual job performance, thus increasing the efficiency and effectiveness of one-to-one on the job instruction.

The present study will attempt to determine whether simulation instruction on selected job task requirements, which sample the range of stimulus/response variation encountered in two community jobs, results in generalized performance of specific community job requirements. Four severely handicapped subjects will, therefore, receive simulation

instruction on two job types using instructional examples which sample the range of stimulus/response variation encountered during individual performance assessments of a larger class of probe examples at an actual community job site.

CHAPTER II

REVIEW OF THE LITERATURE

A. High School Programs for Severely Handicapped Students

With the advent of Public Law 94-142, the right to a free public education was extended to our nation's severely handicapped children. P.L. 94-142 not only mandates this right but firmly ascribes to the ideal that educational programs for these children must be appropriate to each child's needs and must be provided in the "Least Restrictive Environment" (Federal Register, 1977 p. 42497). On the high school level, this ideal has led to the development of a variety of curricular approaches for educating severely handicapped children who are about to enter adulthood.

High school programs for students who experience severe handicaps commonly incorporate one or more of the following approaches to defining curriculum content (Wilcox & Bellamy, 1982):

1. "Eliminative Education" (p. 24) concentrated on the elimination of inappropriate behaviors.

2. "Developmental Models" (p. 24) focused on normal development referenced prerequisite skills.

3. "Academic Content Models" (p. 26) based on the development of basic academic skills.

4. "Models Based on the Demands of Adult Life" (p. 28) in community vocational, leisure, and residential environments.

Of the four approaches, the initial three provide for instruction or remediation of behaviors which may or may not result in increased independence for severely handicapped high school graduates. These approaches are often based upon an implicit assumption that there

is unlimited time for instruction during the high school years, therefore remediation of behavior problems, and the acquisition of developmental skills and preschool academic skills are viewed as prerequisite behaviors, seldom acquired before graduation (Wilcox & Bellamy, 1982).

High school programs based on the demands of adult life draw upon adult environments and typical adult behaviors as referents for individualized educational programming. These adult referents are important components of the "Criterion of Ultimate Functioning" (Brown, Nietupski & Hamre-Nietupski, 1976) in which individualized educational objectives are derived from a variety of constantly changing environmental factors to which each person must adapt if they are to function productively and independently in their community.

Curriculum approaches must therefore incorporate instructional practices which result in an effective change from high school to post school environments. To maximize integration into future adult environments, high school programs may use community based instruction in community vocational, recreational, and residential environments as a focus for curriculum development. Indeed, frequently cited performance characteristics of severely handicapped students; (a) particularly slow skill acquisition; (b) poor skill maintenance; (c) inadequate skill generalization; and (d) inability to synthesize previously learned behaviors to new performance demands, make it imperative that learning occur in settings where the performance of community based activities is actually required (Brown et al., 1983).

Instructional Location Strategies

Brown and his colleagues (Brown et al., 1983) have defined three

instructional location strategies for the delivery of community based instruction in which students are provided with varying levels of interaction with community environments. "Consecutive instruction" (p. 75) requires criteria level performance of community referenced skills at school prior to allowing access to community environments. This approach commonly features arbitrarily determined skill performance or behavioral control criteria which may be irrelevant to performance in the community. Students may be denied access to community based instruction because of failure to meet school simulation criteria rather than community standards, thus limiting their level of community socialization.

"Concurrent Instruction" (p. 75) minimizes prerequisite attainment requirements through the provision of individualized instruction in both school and community environments within daily or weekly time intervals. The risk of not progressing from school to community environments is neutralized through regularly scheduled community instruction or probes, and the performance requirements of in school simulation instruction can be empirically verified in the community. Additionally, parents and nonhandicapped persons in the community can participate in each student's educational process by maintaining and extending functional skills taught in community environments and by developing friendships with severely handicapped students.

The most relevant, and seemingly appropriate location strategy for students in the 18 to 21 year chronological age range is the delivery of instruction in community environments only (Brown et al., 1983). Instruction which is delivered only in community environments

provides an alternative to continued in-class instruction with younger students on skills which should have been acquired earlier. Community only instruction allows the student to function in community vocational environments all day, and can be extended to nighttime residential and leisure instruction as a transition strategy to adult residential services (Freagon et al., 1983). Community only instruction produces an efficient, effective transition from high school to adult life, providing a student with post school vocational and residential placements other than the restrictive placements usually afforded severely handicapped adults, e.g. activity centers and large group homes (Lynch, 1979; Wilcox & Bellamy, 1982).

Transition From High School To Adult Life

The transition from high school to adult life can be arranged through the development of an Individualized Transition Plan (ITP) to plan for the transition from school to adult services. An ITP is used to designate a particular residential program, select employment options, and plan for integrated social and recreational activities (Wilcox & Bellamy, 1982). The written ITP should include several components:

1. Selection of a particular work placement that provides both training and maintenance of productivity.
2. Selection of a residential placement that ensures maximal independence in day to day activities.
3. Design of a leisure program that ensures contact with nonhandicapped community members.
4. Arrangements that ensure frequent contact with family members.
5. Enrollment in services required for income support, housing, and health care.
6. Designation of an advocate to monitor implementation of the plan.
7. Plans for long term support of the student.

(Wilcox & Bellamy, 1982, p. 229)

B. Adult Vocational and Nonvocational Day Placements

The vocational and nonvocational day services extended to handicapped adults in the United States primarily adhere to a "flow through continuum" of prerequisite program levels (Bellamy, Sheehan, Horner, & Boles, 1980, p. 312). This continuum is conceptualized as a means by which individuals with handicaps progress through increasingly renumerative vocational opportunities, from adult day programs (ADPs) and work activities centers (WACs) to sheltered employment to competitive work in the public or private sectors of the American economy.

Entry into this service continuum usually occurs upon graduation from high school or upon dispersal from an institutional placement and, for severely handicapped individuals, commonly results in placement in an ADP or WAC (Bellamy, Sheehan, Horner, & Boles, 1980). Movement from an initial placement to higher levels in the continuum may occur when an individual demonstrates the necessary behavioral control, adequate living skills, and prerequisite work accuracy and rate needed to achieve production criteria in a sheltered workshop or competitive job (Howse, 1983). The following sections of this review further describe the components of the flow through continuum and illustrate alternatives for providing least restrictive vocational training and placements for severely handicapped adults.

Adult Day Programs/Work Activities Centers

The U.S. Department of Labor (1979) reported a 500% increase in the number of persons served in sheltered employment and work activities centers (WACs) between 1968 and 1976. Bellamy, Horner, Sheehan, and Boles (1980) projected that in 1976, about three fifths of all workshop participants, about 85,000 persons, were served in WACs. The

significance of this large number of participants in apparent given that WACs are defined by Department of Labor regulations as programs that are:

> ....planned and designed exclusively to provide therapeutic activities for handicapped workers whose physical or mental impairment is so severe as to make their productive capacity inconsequential. Therapeutic activities include custodial activities (such as activities where the focus is on teaching the basic skills of living), and any purposeful activity so long as work or production is not the main purpose. (Department of Labor Regulations, 29 CFR Part 525; In Bellamy, Horner, Sheehan, & Boles, 1980, p. 2 & 3)

The wages earned by WAC participants substantiate the view that WACs are primarily nonvocational programs which do not emphasize paid vocational performance. In 1976 the average hourly wage for work time was $.43 with an average annual income of $288.00 (Bellamy, Horner, Sheehan, & Boles, 1980).

The number of persons served by nonvocational ADPs has also increased dramatically during the 1970s. A population-based estimate, conducted in 1979, indicated that approximately 2,000 ADPs were serving an estimated 105,000 individuals nationwide (Bellamy, Sheehan, Horner, & Boles, 1980). These programs are typically referred to as therapeutic activities centers, adult activity centers, developmental centers, day treatment centers, adult day care centers, etc. ADPs characteristically differ from WACs in that renumerative vocational tasks are seldom, if ever, engaged in, and in several states are legally forbidden (Bellamy, Sheehan, Horner, & Boles, 1980), as is the case in the Commonwealth of Pennsylvania (Howse, 1983).

Curriculum content for WACs and ADPs primarily focuses on prerequisite skills including hygiene/grooming, functional academics, social, recreational, and home living skills. Additional stated

purposes for these program models include the providing of a daily respite for parents and the development of individual case management (Howse, 1983).

Despite the presumption that teaching prerequisite skills permits advancement along the continuum of services, ADPs and WACs have become long term placements for many severely handicapped individuals (Albin, Stark, & Keith, 1979; Bellamy, Sheehan, Horner, & Boles, 1980; Wilcox & Bellamy, 1982). Additionally, severely handicapped individuals are frequently excluded from sheltered workshops (Greenleigh Associates, 1975) as a function of their inability to perform workshop entrance requirements (Albin, Stark, & Keith, 1979; Schalock & Karan, 1979).

Sheltered Workshops

Sheltered workshops, the third component of the flow through continuum, provide services to handicapped employees in the areas of work adjustment training, extended sheltered employment, and placement, as well as instruction in the activities of daily living (Howse, 1983).

Greenleigh Associates (1975), characterized a sheltered workshop as follows:

> ....a nonprofit organization that provides employment to handicapped persons and that is certified by the Wage and Hour Division of the Department of Labor (DOL), as covered by special minimum wage provisions for at least some of the handicapped persons employed at the organization. (p. 8)

One common goal of sheltered workshops has been the use of the work environment to help individuals reach their highest occupational potential (Greenleigh Associates, 1975). This goal has been frequently overlooked, however, when programs emphasize high workshop productivity to meet contract deadlines. In these instances, more skilled employees may remain at the sheltered workshop to boost production and provide

reliable manpower (Howse, 1983).

A second goal of sheltered workshops is to provide work adjustment training on tasks viewed as prerequisities to working on sheltered contracts. Prerequisite skills typically include: time recognition, verbal labeling of numbers, money skills, measurement skills, questioning skills, and other nonvocational skill areas (Conant, 1980; Parcway Industries, 1983). However, in actuality, many of these skill areas have little or no relevance to specific work tasks provided at the sheltered workshop. Consequently, since many severely handicapped individuals cannot perform these prerequisite skills, they are frequently excluded from sheltered workshops (Albin, Stark, & Keith, 1979).

C. Alternatives to the Continuum of Services

Structured Employment

The structured employment model, developed by Bellamy and his colleagues at the University of Oregon is based on the concept that the combination of extended sheltered employment with competitive job training and placement services may lead to conflicting program concerns (Bellamy, Horner, & Inman, 1979) such as the placement versus production dilemma faced by many sheltered workshops (Howse, 1983). Given the exclusion of many severely handicapped individuals from sheltered workshops, coupled with their long term placement in ADPs and WACs, it is apparent that program efforts geared for the most severely handicapped members of a community should concentrate on providing paid vocational alternatives. Competitive job preparation and placement may, therefore, be directed to other agencies while structured employment programs concentrate on teaching skills required to perform tasks

presented in long-term vocational settings (Bellamy, Horner, Sheehan, & Boles, 1980).

In structured employment it is acknowledged that extended sheltered employment may be a viable community service for many severely handicapped individuals. Structure employment, therefore, integrates many of the features of sheltered workshops with a business orientation through application of the following program principles (Bellamy, Horner, Sheehan, & Boles, 1980):

1. "Focus on extended employment" (p. 8). Structured employment entails the complete separation of employment from competitive job training and placement. Such functions are assumed to be the responsibility of external agencies which provide vocational rehabilitation, independent living, and other community services.

2. "Priority to severely handicapped individuals" (p. 9). Priority admissions are provided to the most severely handicapped individuals in a community, reversing sheltered workshop admission, practices which provide access to work to individuals with prerequisite skills and acceptable production rates.

3. "Emphasis on productivity and wages" (p. 10). The primary indicators of program effectiveness are individual productivity levels and wages. Structured employment is a work option, premised on a belief that appropriate work will create opportunities for community involvement not encountered in habilitative or educational programs (Bellamy, Horner, & Inman, 1979).

4. "On going employment support" (p. 10-11). The provision of a work setting in which severely handicapped individuals can achieve high productivity levels over extended periods of time requires a higher

funding level for adaptive equipment, training, and supervision, then do similar industries which employ mildly handicapped or nonhandicapped workers.

5. "Availability of organizational alternatives" (p. 11). The structured employment model does not limit the employment of severely handicapped persons to extended sheltered employment. Rather, it defines the type of program support needed for the productive employment of severely handicapped individuals in any vocational setting. With proper regulatory support this model may function in centers which now function as nonvocational ADPs, in sheltered workshops, as an enclave within an industry, etc.

The structured employment model is currently being used at the Specialized Training Program (STP) developed at the University of Oregon. As of August 1980, 127 workers were employed in eight STP sites across six northwestern states (Bellamy, Horner, Sheehan, & Boles, 1980). The average hourly wage across all sites for time spent working in 1979 and nine months of 1980 was $1.93 (Median = $1.20) which was more than four times the national average of $.43 an hour earned in WACs (Bellamy, Horner, Sheehan, & Boles, 1980).

The State of Washington Division of Developmental Disabilities, in conjunction with the Division of Vocational Rehabilitation, has developed a statewide system of Subsidized Work and Work Training options based on the structured employment model. Subsidized Work and Work Training programs range from segregated extended sheltered employment to integrated enclaves in industry. These programs prioritize placements for the most severely handicapped individuals in each community.

Program evaluation is based on monthly appraisals of client outcomes including: (a) the number of hours worked per month at each site; (b) the average hourly wage at each site; (c) the average hourly production wage at each site; and (d) the level of integration with nonhandicapped workers at each site. Additionally, each site's level of self sufficiency, based on monies attained through industrial contracts, is evaluated monthly. As of May 1984, Subsidized Work and Work Training programs employed 2,370 severely handicapped individuals who received a $1.05 average hourly production wage, and a $57.68 average monthly wage for the month of May. Several programs also achieved a self sufficiency rating of 50 percent or higher (O'Neill & Associates, 1984).

Competitive Employment

In an extensive national survey of sheltered workshops, Greenleigh Associates (1975) projected that approximately 10 percent of the clients served were placed in nonsheltered jobs in their communities. The placement rate for WACs and workshops for the blind was 7 percent, since these organizations did not place a high priority on job placement. A subsequent report by the U.S. Department of Labor (1979) indicated that, during 1979, 11.3 percent of the clients served in sheltered workshops were placed in competitive employment and 7.4% of those served in WACs received similar placements. In light of these low placement figures and of the long waiting lists for entry into the "flow through continuum" (e.g., 1632 high school graduates on waiting lists in Pennaylvania, Howse, 1984), it is apparent that competitive job placement efforts need to be expanded (Wehman, 1983; Howse, 1983), and current best practices in providing on the job training and advocacy

need to be widely replicated (Hill, Cleveland, & Pendleton, 1982).

Traditional placement practices among workshop placement personnel involve client referrals to jobs based on a list of potential employers and follow-up procedures performed through infrequent visits to the jobsite or the client's home, telephone calls to the employer, or mailing out employer questionnaires (Greenleigh Associates, 1975). Follow-up of persons placed in competitive employment was offered by only 39 percent of all sheltered workshops as projected in the Greenleigh Associates (1975) survey. Again, given the performance characteristics of severely handicapped persons (Brown et al., 1983) it is likely that severely handicapped individuals will seldom be referred for placement (Wehman, et al., 1983) and will encounter problems on the job because of traditional placement practices (Wehman & Hill, 1980).

Recent efforts to provide competitive job training and placements have used a "Survey, Train, and Place" (Rusch & Mithaug, 1980, p. 102) model for individual job development, one-to-one on the job training, and follow-up advocacy at the work site. The job development (survey) phase of this model requires an initial matching of each client with a particular job type through attention to the following considerations:

> ...(1) Client's Previous Work History; (2) Client's Level of Functioning and Physical Characteristics; (3) Supplemental Security Income; (4) Client's Living Situation and Transportation Needs; and (5) Client's and Parent's Attitudes Toward Competitive Employment. (Wehman & McLaughlin, 1980, p. 40-43)

An appropriate job can be found for the client, based on the client/job match. Procuring such a position requires the development of a community job assessment utilizing standard job search practices such as screening newspaper want ads for job announcements which state "will

train" and "no experience necessary" or by looking in the yellow pages for targeted low skill jobs. Additionally, universities, colleges, hospitals, and other large institutions are prime possibilities for placement. These employers typically have high turnover rates in jobs which require limited entry skills, are often committed to employing handicapped individuals, and provide highly desirable pay and benefits (Wehman & McLaughlin, 1980).

Job development is completed through an analysis of the work site and of the specific requirements of the job under consideration. In conducting this "Job Skills Inventory" (Belmore & Brown, 1978) the following areas are addressed:

1. "General Information" including a rationale for considering a handicapped worker for the position, general job requirements, and a description of the work setting and social environment.

2. "Specific Skill Requirements" including a task analysis of specific job requirements.

3. "Supportive Skills' including the skills necessary for independent work behavior, such as transportation skills, money, and academic skills, time telling skills, and work preparation skills (Belmore & Brown, 1978, p. 227).

The job training (train) phase involves on-going behavioral assessment of the client's work regularity, amount of trainer assistance provided during one to one training, and supervisor evaluations of the client's work performance (Wehman & McLaughlin, 1980). When conducting on the job training, trainers may sample work regularity by measuring on task and off task behavior using either frequency or interval observation systems (Snell, 1983; Wehman & McLaughlin, 1980). The

samples obtained may be compared with similar samples conducted with nonhandicapped co-workers to determine whether the frequency or incidence of interfering behaviors requires the development on on the job behavioral interventions (Wehman & McLaughlin, 1980).

Actual job training requires the use of a "least intrusive prompts strategy" (Snell, 1983, p. 123) in providing the minimal amount of trainer assistance needed to complete each step in the job's task analysis. In this manner, a trainer may systematically provide assistance by: (1) initially waiting for independent performance; (2) providing a verbal instruction; (3) providing a verbal instruction while modeling the behavior; and (4) providing verbal instruction while physically guiding the client through the behavior. A task analysis data collection system (Snell, 1983, p. 130) can be used with the least intrusive prompts strategy to code the level of assistance used for each task analysis step, thus enabling instructional decisions about necessary changes in training procedures (Snell & Smith, 1983).

Supervisor evaluations serve as sensitive indicators of client performance and job potential. Through regularly scheduled written evaluations trainers may receive information about the employers perceptions and attitudes concerning the training staff and procedures. Additionally, these evaluations may serve as indicators for determining whether training may be discontinued and the client placed on the job (Wehman & McLaughlin, 1980).

Through the use of on-going behavioral assessment strategies and supervisor evaluations the presence of the trainer at the work site is systematically faded, this is accomplished by initially fading trainer assistance and proximity to the client as the client becomes

increasingly independent in performing the job requirements. Supervisory control is gradually shifted to the work supervisor while the client is permitted to perform gradually increasing portions of the job without the trainer present at the work site (Wehman & Hill, 1980).

Upon successful placement in a competitive job, the new employee is provided follow-up services (Place) designed to maintain employee job performance and alleviate potential problems in the work place. The functions of a follow-up program are to provide support services for the new employee in the following areas: (a) early identification of placement problems; (b) provision of on-the-job interventions; (c) seeking social validation from supervisors, co-workers, parents, etc.; (d) planning interventions by others; (e) fading follow-up checks; and (f) evaluating the employees adjustment to the job (Rusch & Mithaug, 1980).

The delivery of employee follow-up checks may be arranged with the employer on an adjusted or fixed schedule including varying degrees of contact with the employee based on employee deficits and job demands. An adjusted schedule is determined by the success of the employee receiving follow-up services. The adjusted schedule may, initially, require daily contact with the employee and may be gradually extended to weekly checks with co-workers, supervisors, or to weekly supervisor evaluations. The follow-up trainer thus defines the follow-up schedule according to employee needs and the perceptions of co-workers and supervisors, with a goal of minimizing or terminating on the job contact with the employee (Rusch & Mithaug, 1980).

In instances where employers may be resistant to an adjusted schedule, and require a predetermined schedule of follow-up visits, a

fixed follow-up schedule may be implemented. Although such a schedule may be difficult to tailor to the needs of a particular employee, it may address those needs by maximizing the time spent with the employee during the initial follow-up sessions and systematically fading contact time and frequency according to the predetermined fixed schedule (Rusch & Mithaug, 1980).

Variations of this competitive employment strategy are currently utilized in providing vocational training and placements for severely handicapped junior high and senior high school students in the Madison Wisconsin Public Schools. In the junior high school program, severely handicapped students are trained in one or more competitive job environments on a part time basis. As students progress through junior and senior high school they are provided with increased opportunities to work at job placements in their community, culminating in full-time employment in a competitive job upon graduation. Of the 53 severely handicapped students who have graduated, 38 have retained competitive employment and 10 have been referred to sheltered workshops (Brown, 1983).

Similar survey, train, and place strategies are used by Project Employability at the Rehabilitation Research and Training Center, Virginia Commonwealth University, (Wehman & Hill, 1979; Wehman & Hill, 1980; Wehman & Hill, 1982). A longitudinal survey of the severely handicapped adults placed by Project Employability from September 1978 to September 1983 indicates that of the 139 adults placed, 72 (51.8%) remain on the job (Wehman et al., 1983). Competitive employment placements such as these have resulted in significant savings to taxpayers, in Supplemental Security Income (SSI) benefits up to $3,168

annually for each person working full time, and an average cost of $4,700 for each person to participate in an ADP or WAC (Wehman et al., 1982). Additionally, clients who have been placed by Project Employability for at least one year have earned an average of $4,464 per year (Wehman et al., 1982), which contrasts sharply with the average yearly income of $417 paid to mentally retarded sheltered workshop clients (Whitehead, 1979).

Wehman and his colleagues at Project Employability (1982) have defined three major problems that have been present in project clients which directly relate to prior high school or adult center preparation. The first problem is that clients may lack specific work skills required to perform independently on an array of jobs that are marketable in the local community. These deficits result in extended prior instruction at an adult center and much more time spent in on the job training.

The second problem is that clients may lack the strength or stamina necessary to work all day. This can be attributed to sitting all day in school or adult programs performing repetitive manual tasks which do not require marketable job skills or stamina.

The third problem stems from clients' inability to interact with nonhandicapped people other than family members or program staff. Individuals who have previously received programming in segregated settings often lack the social skills necessary to relate to nonhandicapped people in an integrated work setting (Wehman et al., 1982).

Lack of specific work skills, stamina, and the ability to interact with nonhandicapped persons may result in an extended amount of intervention time spent by the trainer at the job site (Wehman et al.,

1982). As of September 1983, the 139 clients placed by Project Employability staff have required an average of 181 hours of trainer intervention to learn and maintain competitive job requirements (Wehman et al., 1983).

Such extended interventions may lead to client dependency on the availability of daily individualized attention and result in the slow fading of trainer assistance. As a consequence, the financial expenditures required to maintain a trainer during long term training and placement may be prohibitive. Therefore, the problems relating to extended training and staff fading provide an argument for "more effective pre-employment training and preparation." (Wehman & Hill, 1980, p. 30)

Several sources (Bellamy, Rose, Wilson, & Clarke, 1982; Horner, McDonnell, Williams, & Vogelsberg, 1983) indicate that specific work skills preparation may include instruction on job or skill clusters sampling the tasks, processes, and behavioral requirements that a severely handicapped individual will encounter on a specific job. By systematically sampling the requirements of a particular job in simulation, specific work skills may generalize to a broader range of actual job requirements. Bellamy and colleagues (1982) state that:

> ....A promising area of curriculum development is to apply this programming approach to clusters defined by particular job descriptions. Food service work, hotel and motel maids, building custodians, mechanics helpers, and a variety of other job descriptions could be taught through systematic samplings of the equipment, social settings, job demands, and processes required over time in various jobs having that description. (p. 150)

D. Generalization

Early Concepts

Three types of generalization were defined by Hull (1943):

1. Stimulus generalization - the conditioned response performed with a particular stimulus is performed with different, yet similar stimuli.
2. Response generalization - the stimulus used in the original reinforcement conditions elicits different, yet similar responses other than the response performed under reinforcement conditions.
3. Stimulus - response generalization - stimuli not used in the original reinforcement conditions, yet similar to those stimuli, evoke responses which differ from the original reinforced response, yet are related to the original response. (p. 66).

Generalization was therefore conceived as a product of stimulus control in which the value of an antecedent stimulus determines the occurrence of a conditioned response (Terrace, 1966) which also occurs with variations of the conditioned stimulus (Hovland, 1937; Guttman & Kalish, 1956).

In developing stimulus control, variations in stimuli adjacent to the conditioned stimulus produce gradually decreasing response levels. These response levels result in the development of a generalization gradient (Hull, 1943) on which responses to stimuli decrease in intensity (Hovland, 1937) or frequency (Guttman & Kalish, 1956) in a symetrical curve at equal intervals from the conditioned stimulus (Terrace, 1966).

Generalization was also viewed as an operant phenomenon resulting from the formation of a discrimination. A discrimination is said to occur when a stimulus signals a response which is followed by a reinforcer, the effect of which increases the likelihood of the stimulus producing the response on future occasions. Discriminative behavior is seen as occurring within a continuous field of stimulus variations within a repertoire of discrete units of stimuli and responses, although some discriminations do not fall within a continuous field of stimulus

variations but constitute a class of distinct, separate stimuli, e.g. person's names (Skinner, 1953).

Generalization was thus viewed by early theorists as a passive function and a natural result of the establishment of stimulus control or discrimination learning. As a result it was assumed that newly acquired responses would be controlled not only by a discriminative stimulus or conditioned stimulus, but to a lesser degree by other stimuli resembling that conditioned or discriminative stimulus (Hull, 1943; Skinner, 1953; Terrace, 1966).

Generalization Strategies

Recent generalization literature has contained emphasis on active programming for generalization. Rather than assume various degrees of generalization as a natural function of stimulus control or discrimination learning, generalization has been conceptualized as a desired outcome of educational practice. Stokes and Baer (1977) asserted that "A therapeutic behavior change, to be effective, often (not always) must occur over time, persons, and settings, and the effects of the change sometimes should spread to a variety of related behaviors." (p. 350)

In their classic synthesis of generalization literature, Stokes and Baer (1977) defined nine general strategies commonly used to produce generalization:

1. "Train and Hope" (p. 351), the most common procedure for which generalization is measured after or concurrent with a behavior change. Generalization may be desired yet not directly programmed.

2. "Sequential Modification" (p. 352) is a systematic extension of "train and hope" requiring the sequential application of an intervention

to settings, responses, subjects, or experimenters for which the generalized behavior failed to occur.

3. "Introduce to Natural Maintaining Contingencies" (p. 353) through which behavioral control is generalized from an intervention agent to natural consequences.

4. "Train Sufficient Exemplars" (p. 355) in which diverse exemplars across persons, settings, or responses are trained and generalization is assessed within a larger class of exemplars.

5. "Train Loosely" (p. 357) in which teaching is conducted with relatively little control over the stimuli presented and the responses required, thus maximizing the sampling of relevant stimulus/response dimensions for generalization to other stimulus situations and other forms of the behavior.

6. "Use Indiscriminable Contingencies" (p. 358) in which intermittent schedules of reinforcement result in unpredictable consequences, thus events that signal the presence or absence of a consequence may be indiscriminable and produce a generalized response which occurs across stimulus events.

7. "Program Common Stimuli" (p. 360) requiring training on stimulus components common to both the training and generalization settings. In this manner salient stimuli present in the generalization setting are incorporated into the training setting. If the training stimuli are well chosen and can be made functional in the training procedures then generalization may be programmed.

8. "Mediate Generalization" (p. 361) by developing a response which is part of new learning and is likely to be used in other problems through sufficient commonality between the original learning and

problems presented in generalization measures.

9. "Train to Generalize" (p. 362) through the delivery of reinforcers for desired generalized behaviors. Reinforcement may be provided for responses to stimulus variations along a generalization gradient as well as the original conditioned stimulus.

Based on the nine general strategies, Stokes and Baer (1977) further delineated a smaller list of specific tactics to facilitate generalization:

> 1. Look for a response that enters a natural community; in particular, teach subjects to cue their natural communities to reinforce their desirable behaviors.
> 2. Keep training more exemplars; in particular, diversify them.
> 3. Loosen experimental control over the stimuli and responses involved in training; in particular, train different examples concurrently, and vary instructions, SDs, social reinforcers, and backup reinforcers.
> 4. Make unclear the limits of training contingencies; in particular, conceal, when possible, the point at which those contingencies stop operating, possibly by delayed reinforcement.
> 5. Use stimuli that are likely to be found in generalization settings in training settings as well; in particular use peers as tutors.
> 6. Reinforce accurate self-reports of desirable behavior; apply self-recording and self-reinforcement techniques whenever possible.
> 7. When generalizations occur, reinforce at least some of them at least sometimes, as if "to generalize" were an operant response class. (p. 364)

Stokes and Baer (1977) stated that these general strategies and specific tactics not only provide a set of "what to do possibilities" (p. 364) but emphasize the limitations of generalization technology. Additionally, the occurrence of non-programmed generalization and nongeneralization of programmed behaviors underline the "need to develop a technology of generalization, so that programming will be a fundamental component of any procedures when durability and generalization of behavior changes are desirable." (p. 364)

In a similar review of child behavior analysis literature, Drabman, Hammer, and Rosenbaum (1979) described 16 generalization classes which occur within four major descriptive categories of generalization: (a) across time; (b) across settings; (c) across behaviors; and (d) across subjects. By analyzing the generalization effects of behavior modification strategies, the authors developed a "Generalization Map" delineating common generalization effects of behavioral interventions which produced programmed or non-programmed generalization. Based on this analysis, Drabman, Hammer, and Rosenbaum (1979) generally agreed with Stokes and Baer (1977) by asserting that "One cannot simply" hope" for generalization to occur on an accidental basis; programming for generalized treatment effects must become a technology." (p. 217)

Applied Technology Using a General Case Response

Behaviors that are learned under specific stimulus conditions may generalize to inappropriate stimulus conditions or fail to generalize to appropriate stimulus conditions (Stokes & Baer, 1977). These factors, combined with the performance characteristics of severely handicapped individuals (Brown et al., 1983), require community referenced interventions which actively program for maintenance and generalization of adaptive skills. The applied problem therefore, is "to deliver interventions that reliably and efficiently result in the acquisition of adaptive behaviors that endure over time, are performed under the full range of appropriate stimulus conditions, and are not performed under inappropriate conditions." (Horner, Bellamy, & Colvin, 1983, p. 4).

Within this definition, the applied problem is not one of

generalizing learned behavior but of bringing that behavior under the control of relevant appropriate stimuli. In this manner, generalization may again be conceptualized as a function of the development of stimulus control (Terrace, 1966), with control extended beyond specific training stimuli to the relevant and irrelevant stimuli associated with all members of a target stimulus class (Horner, Bellamy, & Colvin, 1983; Horner, Sprague, & Wilcox, 1982).

Establishing stimulus control across a stimulus class requires the selection of teaching examples which sample stimulus variations within a stimulus class (Horner, Sprague & Wilcox, 1982; Sprague & Horner, in press). This procedure is similar to at least three of the nine intervention categories proposed by Stokes and Baer (1977): train sufficient exemplars, train loosely, and program common stimuli (Sprague & Horner, in press).

Through the development of stimulus control on representative teaching examples a general case response may be programmed in which "The general case has been taught when, after instruction on some tasks in a particular class, any task in that class can be performed correctly". (Becker & Engelmann, 1978, p. 325). The general case for a particular behavioral outcome is derived from the "instructional universe" of "all stimulus situations in which the student will be expected to produce this outcome, and all behavior the learner should perform to achieve the outcome." (Horner, Sprague, & Wilcox, 1982, p. 47). Therefore, the process of general case instruction for persons who experience severe handicaps involves the folloing basic steps:

1. Define the instructional universe.
2. Define the range of relevant stimulus and response variation within that universe.
3. Select examples from the instructional universe for

use in teaching and probe testing.
4. Sequence teaching examples.
5. Teach the examples.
6. Test with nontrained probe examples.
(Horner, Sprague, & Wilcox, 1982, p. 74)

General case programming has been used to teach a variety of generalized responses in vocational, school, and community settings. Horner and McDonald (1982) compared the effects of single instance instruction and general case instruction on cutting and crimping the wire leads on a class of 20 different electronic capacitors. In this experiment, four severely handicapped adolescents were trained to cut and crimp one type (instance) of capacitor. After reaching criteria in single instance training the subjects were presented with probe measures of the 20 untrained capacitors on which none of the subjects could cut and crimp more than 5 capacitors.

Following single instance training and probe measures the subjects were provided training on four general case capacitors which represented the stimulus variations present in the 20 capacitor probe set. The subjects were again probed on the 20 capacitors after they had reached criteria on the general case capacitors. These general case probes revealed a generalized ability to correctly cut and crimp 15 or more of the 20 capacitors during all general case probe sessions for each of the four subjects.

A similar strategy was used by Sprague and Horner (in press) to examine the effects of single instance, multiple instance, and general case training on generalized vending machine use with six severely handicapped adolescents. Probe measures on 10 vending machines (which sampled an instructional universe of machines dispensing food or beverages costing between $.20 and $.75 in Eugene, Oregon) were provided

following training to criterion on 1 vending machine, 3 similar vending machines, and 3 general case vending machines which sampled the range of stimulus/response variation in the 10 probe machines. Results indicated that following single instance and multiple instance training the six subjects were unable to purchase items from more than 2 of the probe vending machines. However, after general case instruction the subjects demonstrated a generalized ability to purchase items from 8 or more of the probe vending machines. These authors acknowledged, however, that a potential threat to internal validity may have occurred because of multiple intervention interactions (Kratochwill, 1978) between the single, multiple, and general case phases in their multiple baseline designs (Horner & McDonald, 1982; Sprague & Horner, in press).

In a subsequent study, Horner, Williams, and Steveley (1984) used general case instruction alone to teach making and receiving telephone calls to four severely handicapped adolescents. This strategy entailed teaching telephone answering and telephone calling procedures in school using a teletrainer and pay telephone with concurrent and consecutive probe sessions conducted on 10 untrained telephones located in the school and local community. Additionally, 10 validation probes for each subject were conducted at the end of the study to assess whether telephone skills extended to other untrained telephones and situations e.g. at home.

The general case procedures, in this study, resulted in at or near 100 percent performance on the experimental probes for answering and making calls, particularly during final probe sessions, for all subjects. Similarly, validation probes indicated that general case instruction extended to additional telephones and situations at or near

100 percent correct for three of the subjects on making and receiving calls. These results indicated that general case instruction alone can produce generalized performance without the internal validity threats present in the prior studies. The use of concurrent generalization probes suggests that general case procedures may be used with concurrent instructional location strategies (Brown et al., 1983).

Horner and his colleagues (1984) state that future research is needed to investigate 'the overall relationship between generalized performance and the criterion used to terminate training." (p. 21). Instruction provided in a simulation environment may, therefore, use community performance as an indicator for the attainment of training criteria (Brown et al., 1983).

Simulation Instruction

"Simulation is a training format in which the stimuli used during instruction are different from, yet similar to, the stimuli available in the target performance environment." (McDonnell, Horner, & Williams, 1984, p. 123). Traditionally, instruction has been conducted in simulation environments with the expectation that instructional outcomes would generalize to community settings. This "Train and Hope" approach has been questioned because demonstration of an unprogrammed generalized response may not occur (Stokes & Baer, 1977) and current instructional practice with severely handicapped individuals requires the use of integrated community settings (Brown et al., 1983).

Although simulation instruction may reduce an individual's involvement in community environments, and may not result in generalized behavior change, simulation instruction may be useful in situations in which instruction in the natural environment may be dangerous or require

inordinate expenditures of staff time, travel mileage, or inancial costs. Instructional efficiency may be increased in cases where natural trials are infrequent (e.g., identification of a particular bus number) or relevant stimuli cannot be varied in the natural environment (Horner, McDonnell, Vogelsberg, & Williams, 1983; Horner, McDonnll, & Bellamy, 1984). Additionally, simulation instruction provdes opportunites to use group instruction on skills usually performed individually in the natural environment (Page, Iwata, & Neef, 1976).

Simulation instruction strategies have utilized a variety of instructional environments and materials to teach a range of community referenced skills to handicapped individuals. Certo, Schwartz, and Brown (1977) used a four phase sequencing of classroom simulation to community instruction to teach public bus riding skills to ten moderately and mildly mentally retarded adolescents. This program resulted in the generalization of sitting/standing responses from simulation to actual bus riding as well as generalization from bus route sight word cards to identification of bus routes indicated on a map of Madison, Wisconsin.

In a similar procedure, Coon, Vogelsberg, and Williams (1981) used consecutive simulation and natural environment instruction to teach bus boarding and departing skills to a 20 year old severely handicapped woman. The classroom simulation procedures in this study resulted in limited generalization to concurrent probe measures of bus riding in the natural environment, and necessitated extended instructional trials in the natural environment. At issue in this study was whether classroom instruction, which does not result in skill generalization in the natural environment, results in fewer training trials to reach skill

acquisition in the natural environment (Coon, Vogelsberg, & Williams, 1981).

van den Pol and his colleagues (1981) used concurrent simulation instruction and probes of the community environment to teach appropriate restaurant behaviors to three moderately mentally retarded adolescents. Simulation instruction included role play of restaurant specific behaviors e.g. ordering food, and slide presentations of discriminative stimuli in a fast food restaurant (McDonald's). Untrained probe measures at a local restaurant (McDonald's) were conducted during baseline and simulation training phases and subsequent follow-up probes were provided at a novel restaurant (Burger King). Simulation instruction resulted in gradually increasing levels of generalization of percent correct responses on untrained probe measures, with final probe performance of 86%, 80%, and 95% for the three subjects. Follow-up probes at the novel restaurant yielded average measurements of 90%, 78%, and 98% for the three subjects.

Although, simulation instruction resulted in high levels of percent correct performance in a natural environment, the percentages conceal common errors occurring on such steps as change estimation, use of condiments, food placement, etc. (van den Pol et al., 1981). The training procedures, in this study, required 100% correct performance on each training step presented in simulation rather than criteria based on probe performance. Simulation training was therefore terminated upon performance of simulation requirements, resulting in incomplete performance of actual community responses.

Page, Iwata, and Neef (1976) dealt with this concern by providing concurrent simulation instruction and community environment

probes during simulation instruction on pedestrian skills (street crossing-controled intersections) with five moderately and mildly mentally retarded young adults. Though training criteria was linked to simulation performance, decisions as to whether training would be continued or terminated were based on follow-up probes conducted at community intersecions.

In teaching basic photography skills (polaroid one step) to a 20 year old severely handicapped man, Giangreco (1983) combined training using a simulated camera (made of cardboard) with concurrent probes using an actual camera with a flash and unexposed film. Criteria for terminating training on the simulated camera was established at 100 percent performance on probe measures using the actual camera over three consecutive probe measures. The subject was required to sequentially generalize four basic photography skills to performance with an actual camera: (1) loading film in the camera; (2) checking the flash attachment; (3) deciding what to photograph; and (4) taking a photograph. This procedure resulted in delivery of the minimum number of training trials required for performance of each skill using actual materials rather than simulated materials. The author stated that "a portion of severely handicapped learners display limited generalization across settings, materials, and people simply because we fail to assist them in making these crucial connections." (Giangreco, 1983, p. 48).

While these studies provide evidence that instruction on simulations of community referenced stimulus conditions can result in generalized performance in the community, generalization has often been assessed on a limited sample of community environments (van den Pol et al., 1981), materials (Giangreco, 1983), or behavioral requirements

(Coon, Vogelsberg, & Williams, 1981). One question, based on this issue is whether simulation instruction can result in generalized performance across the range of stimulus conditions under which a behavior would normally occur (McDonnell, Horner, & Williams, 1984).

Horner and his colleagues (1984) have indicated that by selecting simulation teaching examples that sample the range of relevant stimuli found in the natural environment the "general case" for a community behavior may be efficiently acquired. McDonnell, Horner, and Williams (1984) compared the effects of classroom simulation instruction, with simulation instruction combined with community instruction on generalized grocery purchasing skills in four severely handicapped adolescents. Simulation instruction included flash card instruction on dollar and cent totals less than $20.00, and slide training using slides which sampled the stimulus variations present in an instructional universe of ten probe cash register price readouts representing the cash register variations encountered in Eugene, Oregon.

The dependent measure in this study was whether the subjects produced one dollar over the amount indicated on the flash cards, slides, and actual probe cash registers. Consecutive probes of the five probe cash registers following flashcard training and slide training, indicated that the simulation strategies produced limited generalization to correct performance on the probe examples whereas the combined strategy provided generalized performance across most of the probe cash registers (McDonnell, Horner, & Williams, 1984).

These authors questioned whether simulation instruction using actual representative cash registers may have resulted in generalized community performance. Although the cost of purchasing actual cash

registers may be prohibitive such a factor indicates that further research is needed to determine the "characteristics of classroom simulations that do and do not lead to generalized responding" (McDonnell, Horner, & Williams, 1984). The delivery of consecutive versus concurrent community probes, in this study, may have had an additional impact on the results since the subjects may have experienced difficulty making the "crucial connections" between simulation requirements and the performance demands of the community (Giangreco, 1983).

E. Summary

The high school and adult day services provided severely handicapped individuals incorporate a variety of curriculum or program approaches (Bellamy, Horner, & Inman, 1979; Bellamy, Horner, Sheehan, & Boles, 1980; Wilcox & Bellamy, 1982). Of the previously described approaches, high school programs based on the demands of adult life (Wilcox & Bellamy, 1982), structured employment (Bellamy, Sheehan, Horner, & Boles, 1980), and competitive employment strategies (Rusch & Mithaug, 1980; Wehman & Hill, 1979; Wehman & Hill, 1980; Wehman & McLaughlin, 1980) focus on the attainment of specific work skills which result in paid work and maximal participation in community environments.

High school graduates and adults who have previously been enrolled in programs which do not emphasize specific work skills may, however, need extensive instruction to learn the skills and behaviors required in a community work placement (Wehman & Hill, 1980). Bellamy and his colleagues (1982) suggest that specific work skills may be taught in the classroom using job or skill clusters which sample skills and behaviors needed on a particular job.

The application of general case response technology to the development of classroom simulations has recently received increased attention (Horner et al., 1983; McDonnell, Horner, & Williams, 1984; Horner, McDonnell, & Bellamy, 1984). General case simulations utilize classroom teaching examples selected to sample the instructional universe of relevant stimulus and response variations present in community examples.

Although simulation instruction potentially reduces community participation, simulations provide a viable instructional alternative in cases where community instruction may be dangerous, logistically not feasible, or provide few instructional trials or stimulus variations (Horner, et al., 1983; Horner, McDonnell, & Bellamy, 1984). The instructional issues surrounding the use of simulations to produce generalized community behaviors include: (a) whether simulation instruction results in efficient community instruction (Coon, Vogelsberg, & Williams, 1974); (b) the degree to which simulation stimuli must approximate community stimuli (McDonnell, Horner, & Williams, 1984); and (c) determination of criteria for terminating simulation instruction (Giangreco, 1983; McDonnell, Horner, & Williams, 1984).

To date, research in simulation instruction has not addressed the application of general case simulations of job or skill clusters to specific jobs in a community environment. The present study, therefore, will determine whether general case simulation instruction on specific task sequences, using task examples which sample the range of stimulus/response variation encountered in two competitive jobs, results in the efficient acquisition of generalized job requirements. Of

additional interest is whether concurrent probes in the competitive job environment serve as accurate indicators of generalized skill acquisition and maintenance, and dependable criteria for the termination of simulation instruction.

CHAPTER III

THE PROBLEM

A. Statement of the Problem

The present study will assess the extent to which general case simulation instruction on a janitorial task sequence and a housekeeping task sequence conducted at an adult day program, results in generalized subject performance of housekeeping and janitorial task sequences during untrained probe measures and instruction in a hospital setting.

B. Research Questions

Two research questions will be addressed in this study:

1. Does instruction on representative response examples for two different janitorial and housekeeping task sequences, presented in simulation, result in improved independent subject performance on weekly probe measures of six response examples for those task sequences at an actual job site?

2. Will independent subject performance be maintained during follow-up probes at the actual job site, during instruction at the actual job site, and during systematic withdrawal of instructor intervention and supervision at the actual job site?

C. Definition of Terms

Task Sequences - The chains of discrete tasks included in instructional and probe sessions will be referred to as task sequences. The task sequence for janitorial skills will include tasks required in floor mopping, and the task sequence for housekeeping skills will include tasks required in damp wiping patient furniture and equipment.

Generic Responses - The discrete tasks included in the task sequences will be defined as generic responses. Generic responses contain a sequence of

component steps which are performed with the stimulus/response variations encountered in each response example. As an example, the generic response "mop floor" will include a sequence of individual steps (wet-wring mop, mop with "s" motion, etc.) which will be adapted to the stimulus/response variations found in each response example (Horner, Sprague & Wilcox, 1982, p. 78).

Response Examples - The settings and equipment on which the task sequences will be performed will be considered response examples. Response examples include the actual response examples present at the actual job site and the simulation response examples used at the simulation job site.

Simulation Job Site - The simulation response examples for janitorial and housekeeping task sequences will be presented at the Training Alternatives Center/Workshop in McKeesport, PA. The response examples at the simulation job site will approximate the range of stimulus/response variation present at the actual job site. A minimum number of two simulation response examples will sample the "general case" of six response examples on which the task sequences will be performed at the actual job site (Horner, McDonnell, & Bellamy, 1984; Horner, Sprague, & Wilcox, 1982).

Actual Job Site - Direct instruction and probe measurements will be provided at Kane Regional Center, McKeesport, PA. The study will use task sequences and materials utilized by the janitors and housekeepers at Kane Regional to provide instruction and probe measurement across six floor mopping response examples performed by janitors and six damp wiping response examples performed by housekeepers.

Simulation Instruction - The present study will provide instruction on rooms/areas and equipment at the Simulation Job Site which are similar to, yet different from those encountered at the Actual Job Site. Primary

differences between simulation and actual response examples include such variations as location of the example, the amount of behavior required to perform the task sequence, and the make or model of equipment requiring the same task sequnce, e.g. wheelchairs. Subjects will therefore receive instruction on simulations of the actual response requirements rather than using simulated materials which approximate the equipment and rooms/areas encountered at the actual job site.

CHAPTER IV

METHOD

A. Subjects

Four secondary and post secondary age subjects will be recruited to participate in this study. Two secondary age students who are currently enrolled in a class for trainable mentally retarded (TMR) students at George Washington Elementary School, McKeesport, PA, will be selected as subjects. This self-contained classroom serves students with chronological ages from 14 to 21 years old who have documented intelligence test scores between 30 and 55 as determined by the WISC. Vocational programming is provided the students in the TMR class through daily participation in a shop class session which provides students with experience working on work samples of various bench work tasks. It is anticipated that 18 to 21 year old subjects will be selected from this classroom.

Two post secondary age adults (chronological ages from 21 to 25 years) who are currently enrolled in the Training Alternatives Center and Workshop (TAC/W), McKeesport, PA, will also be selected as subjects. These adult subjects will have documented intelligence test scores below 55 as determined by the WAIS. Vocational programming is provided the clients at TAC/W through the use of prevocational work samples, industrial contracts requiring bench work assembly, mailing contracts, and the manufacturing of wooden toys and Christmas ornaments. Additionally, simulated specific job instruction is provided in the areas of food services instruction and janitorial skills instruction.

Selection criteria for subject participation in the study will be based on classroom teacher/TAC/W staff appraisal of each subject's competency on the following factors: (a) works on his/her feet for 2-1/2

hours; (b) remains engaged in a task or sequence of tasks for a period of 2-1/2 hours; and (c) understands and follows simple one sentence verbal directions. Performance criteria for subject selection will be based on a pre-baseline assessment of each subject's competencies in damp wiping a table top and mopping a 10 foot by 10 foot area using a push/pull mopping motion.

Written parent or guardian permission will be required for each subject participating in the study. Parents or guardians will, therefore, be required to sign a Parent Consent Form (Appendix A) which describes the purpose and methods of the study, and outlines potential risks and benefits of subject participation in the study. A review of potential risks to participants will also be conducted by the University of Pittsburgh Psycho Social IRB (See Appendix A, School of Education Human Subjects Review Committee Proposal and Parent Consent Form).

B. Settings

The study will take place in two settings, one simulation site and one actual job site. Simulation instruction will be conducted at the Training Alternatives Center and Workshop (TAC/W) in McKeesport, Pennsylvania. TAC/W is a vocational and daily living skills training center for adult age individuals who experience varying degrees of mental retardation. The center is administered by Mon-Yough Mental Health/Mental Retardation Services Inc., a non-profit agency funded and regulated by the Commonwealth of Pennsylvania and Allegheny County Mental Health/Mental Retardation. The center was selected as a simulation site because of similarities to the actual job site (long corridors, institutional bathrooms, classrooms), and a continued high level of communication and cooperation between TAC/W and the University of Pittsburgh.

The actual job site is a 350 bed convalescent hospital, Kane Regional Center (Kane), located in McKeesport, Pennsylvania. John J. Kane Hospitals are a network of publicly funded hospitals located throughout Allegheny County, administered by Allegheny County, and funded by the Commonwealth of Pennsylvania, Department of Public Welfare. This site was chosen based on it's proximity to TAC/W and the wide range of instructional opportunities available. Within this site housekeeping probes and instruction will be conducted in unoccupied patient rooms assigned by the Housekeeping Department Supervisor. Janitorial probes and instruction will be conducted in the first floor rooms and areas usually mopped by entry level janitors, these rooms and areas will also be assigned by the Housekeeping Department Supervisor on a daily basis.

Materials

Simulation and actual job site damp wiping and floor mopping supplies and equipment will be located on housekeeping carts and in janitor's storage rooms at TAC/W and Kane. The equipment and supplies used at the simulation job site will closely replicate the materials used by janitors and housekeepers at Kane. The following equipment and supplies will be used at the simulation and actual job sites:

(a) Damp wiping equipment and supplies,

1. two, 10 qt. buckets,
2. 1/2 oz. packets of quaternary germicidal detergent (A-33) - one per subject per session,
3. two, spray cans all purpose polish,
4. two, cans toilet bowl disinfectant (Sani Flush),
5. Clean white cloths (washcloths),
6. two, toothbrushes,

7. two, plastic scouring pads,

8. two, toilet bowl brushes, and

9. two, housekeeping carts; and

(b) Floor mopping equipment and supplies,

1. two, 44 qt. caster buckets with wringer,

2. 16 oz. and 24 oz. mops,

3. two, 24 inch dust mops

4. two, dust pans,

5. two, pick up brushes,

6. four, caution signs,

7. two, putty knives,

8. 1-1/2 oz. packets of quaternary germicidal detergent (A-33) - one per subject per session.

Instructor and Data Collectors will carry a clipboard containing data sheets (Appendix D) for both task sequences per each subject. This will require that two data collection clipboards be developed for each subject. Total data collection materials will include eight clipboards, and eight sets of data sheets for the damp wiping and floor mopping task sequences.

D. Procedures

1. Task Sequences

This study will incorporate task sequences commonly engaged in by housekeepers and janitors at Kane Regional Center. The discrete tasks involved in damp wiping patient furniture and equipment were selected as an instructional task sequence since damp wiping constitutes the primary task of housekeepers at Kane. Similarly, mopping of the tile floors in the rooms and areas on the first floor of Kane was chosen as a janitorial task

sequence because entry level janitors are initially assigned to mop on the first floor, away from the patient living areas on floors two through four (See Appendix B; Kane Regional Center Floor Plans).

The specific generic responses and generic response components included in the floor mopping and damp wiping task sequences are derived from several sources. Detailed descriptions of dust mopping, wet mopping, damp wiping, and polishing procedures are included in the John J. Kane Hospital Housekeeping Department Orientation Manual (1981), from which the procedures in this study were derived (See Appendix C, John J. Kane Hospital Housekeeping Department Orientation Manual Procedures and Task Sequence Validation Instruments. These procedures have been adapted in the task sequences to the actions currently performed by housekeepers and janitors employed at Kane. This process required in-vivo observation of one highly competent housekeeper and one highly competent janitor at Kane by the principal investigator and the Director of TAC/W. The task sequences were therefore adjusted according to observed performance of a janitor and housekeeper, and the procedures specified in the Orientation Manual.

The task sequences were subsequently validated by completion of task sequence validation instruments (Appendix C) on which two janitors and two housekeepers at Kane indicated agreement (very much like) or disagreement (very different) as to the similarity between the task sequence components (actions) and the actions they perform during their daily work at Kane. The completed validation instruments indicated that for the damp wiping task sequence the response example "cleaning a drinking fountain" required drying with a dry cloth after washing, prior to polishing. Similarly, the Kane janitors specified that a 24 inch dust mop

is used on all floors (large dust mops are too cumbersome) and that small rooms with furniture required furniture movement away from walls when mopping rather than movement of furniture out of the room.

The task sequences defined in this process include the following generic responses, the components of which are specified on Tables 1 and 2, Stimulus/Response Variation Matrix's for Damp Wiping and Floor Mopping and on the Data Sheets (Appendix D).

(a) Damp Wiping task sequence,

1. Take supplies from cart, storeroom,
2. Position equipment-move small items,
3. Wash,
4. Polish,
5. Inspect work,
6. Return supplies,
7. Planned exception: and

(b) Floor mopping task sequence,

1. Take supplies from storeroom,
2. Move furniture,
3. Place caution signs,
4. Dust mop, scrape up stuck on matter,
5. Mop floor,
6. Return furniture,
7. Inspect work,
8. Return supplies,
9. Planned exception.

Variations of these generic responses are performed by housekeepers and entry level janitors on an array of response examples at Kane. Generic

response variations typically involve deletion of a particular generic response, differing materials used for different response examples, or different response topographies used with different response examples e.g. floor mopping with push-pull strokes and floor mopping with large "S" strokes (See Stimulus/Response Variation Matrix's for Damp Wiping and Floor Mopping, Tables 1 and 2).

2. Developing a General Case Simulation

The facilitation of generalization from simulation performance to an actual performance environment requires that the stimuli presented in simulation be similar to the stimuli present in the actual environment (McDonnell, Horner, & Williams, 1984; Horner, McDonnell, & Bellamy, 1984). Simulations must, therefore, present stimulus examples which sample the range of the relevant stimulus variation encountered in the actual environment and teach responses to simulation stimuli relevant to the response requirements of the actual environment.

The determination of stimulus/response variations relevant to the actual performance environment requires a definition of the "Instructional universe" (Horner, Sprague, & Wilcox, 1982) in which the stimuli and responses occur. The initial step in defining an instrucional universe entails the description of the activity required by the actual environment e.g., floor mopping. The activity may then be analyzed as to the component steps or generic responses required to complete the activity and the stimulus/response variations present in each actual job site location or material (actual response example) on which the generic responses, are to be performed (large rooms, small rooms etc.).

In the present study the instructional universes for damp wiping and floor mopping were defined through assessing the stimulus/response

Table 1

Stimulus/Response Variation Matrix

Task Sequence: Damp Wiping Patient Furniture and Equipment

Instructional Universe: Patient Rooms and Corridors at Kane Regional Center

Generic Response	Generic Stimulus	Generic Response Components	Variations in the Instructional Universe: Wheelchair △○	Counters, Shelves, Cabinets ●	Chair, Stand, Table ●	Patient Bed ●	Drinking Fountain ●	Sink and Lavatory △○
1. Take Supplies from cart, storeroom	a. 10qt bucket b. ½oz. pack A-33 c. Housekeeping cart	a. Fill 2/3 warm water b. Add to water on cart c. Take to room	c. 1 clean cloth	c. 2 clean cloths	c. 2 clean cluths	c. 2 clean cloths.	c. 3 clean cluths *	c. 2 clean cloths
2. Position equipment, move small items	a. Location b. On surfaces	a. Away from walls etc. b. Move for cleaning	a. Away from walls, set brake b. N/A	a. N/A b. To ½ surface*	b. Move to bed	a. Away from wall, raise * b. N/A	a. N/A b. N/A	a. N/A b. Move to bed, chair c. Add ½ c. Sanifluah
3. Wash	a. Loose soil b. All surfaces	a. Remove with brush, pad b. Wipe, cloth from bucket	a. N/A b. Rub hard on grime, top to bottom	a. N/A c. Repeat-other ½	a. Brush or use pad*	a. N/A b. head to foot, mattress, underneath	a. Jet, drain, button* c. Dry with cloth*	a. N/A b. Rub hard on grime c. Swish toilet brush
4. Polish	a. All purpose polish b. Dry cluth	a. Spray all surfaces b. Wipe all surfaces	a. Don't puliah! b. N/A	a. N/A b. N/A	a. Wood, metal plastic b. All surfaces	a. Head, foot, rails b. Head, foot, rails	a. All surfaces b. Leave no streaks	a. Plumbing, Dispensers b. Leave no streaks
5. Inspect Work	a. Equipment/ furniture b. Remaining soil	a. Look at all parts b. Repeat 3 & 4 (if need)	b. Repeat 3 only	b. Repeat 3 only				
6. Return Supplies	a. Equipment/ furniture b. Cart c. Bucket	a. Original location b. To storeroom c. Empty in wet sink	a. By patient bed				a. N/A	a. Return small items
7. Exception	a. Broken equipment	a. Report to nurse	a. Planned exception-report to Instructur			a. Malfunctioning controls-report to nurse		

* Variations outside range of Simulation Response Examples

△ Simulation Response Example ● Actual Response Example
○ Simulation Response Example-Actual Job

Table 2

Stimulus/Response Variation Matrix

Task Sequence: Floor Mopping First Floor Rooms and Areas

Instructional Universe: First Floor Rooms and Areas (Non-patient) at Kane Regional Center

Generic Response	Generic Stimulus	Generic Response Components	Variations in the Instructional Universe					
			Small Room-Furniture △○	Small Room-No Furniture ●	Mid-size Room-Furniture ●	Mid-size Room-No Furniture ●	Large Area-No Furniture ●	Large Room-Furniture △○
Follow Supervisor Prompt to Room/Area at Kane Regional	a. Rooms/Areas	a. Locate Room/Area Assigned	e. Offices-tile floor Examination Rooms Beauty Shop Post Office ADL Room Snack Room	a. Locker Rooms Bathrooms Elevators	a. Whirlpool Room Day Care Room PT Room OT Room Linen Room	a. Entrance Area Snack Bar	a. Halls-Non Patient Areas	a. Dining Room Chapel Conference Rooms
1. Take Supplies from Storeroom	a. 44qt bucket/wringer b. 1½ oz. A-33 c. Dust Mop-24 in. d. M -16 or .. oz. e. Caution signs	a. Fill 2/3 warm water b. Add to water c. To room-with pan, brush, knife d. Push bucket with mop e. To room-with bucket/mop	e. Take 1 sign	e. Take 1 sign	e. Take 3 signs	e. Take 3 signs	e. Take 3 signs	e. Take 3 signs
2. Move Furniture	a. Moveable furniture b. Heavy furniture	a. Move to clear an area b. Don't try to move	a. From wall to wall	a. N/A b. Trash cans etc.	a. To ½ room b. Desks, tables, etc.	b. Tables, chairs	a. N/A b. Nursing carts	a. To 1/3 room/area b. Organ, pews, etc.
3. Place Caution Signs	a. Location b. Repeat	a. Place for cleared area b. Change placement	a. At entrance	a. At entrance	a. Ends, center ½ room b. To 2nd ½	a. Ends, center ½ room b. To 2nd ½	a. Ends, center ½ length* b. Not necessary	a. Ends, center 1/3 room b. To 2nd & 3rd 3

Table 2 Cont'd.

Generic Response	Generic Stimulus	Generic Response Components	Variations in the Instructional Universe: Small Room-Furniture	Small Room-No Furniture	Mid-size Room-Furniture	Mid-size Room No Furniture	Large Area-No Furniture	Large Room-Furniture
4. Dust Mop, Scrape Up Stuck-on Matter	a. Size of room b. Gum, etc. c. Dust pile	a. Variation in method b. Scrape with putty knife c. Pick up with pan/brush	a. Small "S" stroke	a. Small "S" stroke	a. Straight ahead	a. Straight ahead	a. Straight ahead	a. Straight Ahead
5. Mop Floor	a. Edge of area b. Center of area	a. Mop along baseboards b. Type of stroke	a. Around/under desks, etc. b. Small "S" stroke	a. Around/under fixtures b. Small "S" stroke	b. Move backwards, large "S" c. Around/under bars, etc.	b. Move backwards, large "S" c. Around/under tables, etc.	b. Move backwards, large "S"	b. Move backwards, large "S" c. Around/under organ, etc.
6. Return Furniture	a. Other sections b. Original placement	a. Clear new section(s) b. Return when finished	a. Back to wall	a. N/A b. N/A		a. N/A b. N/A	a. N/A b. N/A	
7. Inspect Work	a. Mopped floor b. Remaining soil	a. Look over all surfaces b. Spot mop (if needed)						
8. Return Supplies	a. Equipment b. Full bucket	a. Return to storeroom b. Empty in wet sink						
* Exception	a. Person(s), carts etc. on wet floor	a. Spot mop (if needed)						a. Planned exception walk, roll over floor

* Variation outside range of Simulation Response Examples

△ Simulation Response Example ● Actual Response Example
○ Simulation Response Example-Actual Job

variations present in six representative response examples for each task sequence. This assessment involved the dlineation of stimulus/response variations for each generic response performed on the representative response examples. The stimulus/response variations for damp wiping and floor mopping are specified on a Stimulus Response Variation Matrix for each task sequence (See Stimulus/Response Variation Matrix's for Damp Wiping and Floor Mopping, Tables 1 and 2). It should be noted that several actual response examples for the floor mopping task sequence include several rooms which require the same stimulus/response variations. By determining actual response examples in this manner, subjects may be assigned to mop different rooms and areas during actual job probe and instructional sessions. Separate room and area assignments will ensure that subjects mop unmopped rooms and areas while performing the same generic response variations in different rooms and areas for each response example (Table 2).

The stimulus/response variations for each generic response, in each actual response example, were analyzed as to the range of these variations across actual response examples. This range is specified on the General Case Analysis Forms (Table 3 and 5) by listing the relevant stimulus and response variations relative to each generic response. Additionally, the notable exceptions and potential errors for each generic response are indicated on the General Case Analysis Form. These include any significant exceptions or low probability events which may occur when completing a generic response, such as mopping up footprints on a wet floor, and possible errors which could hamper the successful completion of the generic response or present safety hazards (See General Case Analysis Forms for Damp Wiping and Floor Mopping, Tables 3 and 4).

Table 3

General Case Analysis Form

Task Sequence: Damp Wiping Patient Furniture and Equipment

Instructional Universe: Patient Rooms and Corridors at Kane Regional Center

Generic Response	Generic Stimulus	Generic Response Components	Variations Within Range of Simulation Response Examples	Potential Errors Outside Range
1. Take supplies from cart, storeroom	a. 10 qt. bucket b. 1/2 oz. pack A-33 c. Housekeeping chart	a. Fill 2/3 warm water b. Add to water on cart c. Take to room	c. 1 or 2 clean cloths	c. 3 clean cloths (drinking fountain)
2. Position equipment, move small items	a. Location b. On surfaces	a. Away from walls etc. b. Move for cleaning	a. Wheelchair, chair, stand, tray table, bed b. Move to bed from chair, stand, tray table, sinks c. Add 1/2 cup sani-flush to toilet	a. Raise bed for cleaning b. Move to 1/2 shelves and cabinets
3. Wash	a. Loose soil b. All surfaces	a. Remove with brush/pad b. Wipe, cloth from bucket	a. N/A b. Top to bottom, underneath	a. Jet, drain button (fountain)/food etc. on furniture c. Dry fountain before polishing
4. Polish	a. All purpose cleaner b. Dry cloth	a. Spray all surfaces b. Wipe all surfaces	a. Chrome, Stainless, don't polish wheelchair b. Wipe sprayed surfaces top to bottom	
5. Inspect Work	a. Equipment/ furniture b. Remaining soil	a. Look at all parts b. Repeat 3 & 4	b. Repeat 3 & 4, 3 only on wheelchair, cabinets, shelves, tray	
6. Return Supplies	a. Equipment/ furniture b. Cart c. Bucket	a. Original location b. To storeroom c. Empty	a. Return small items, return equipment furniture	
7. Exception	a. Broken equipment	a. Report to nurse	a. Missing foot or arm rest on wheelchair- report to instructor, report to nurse	

Table 4

General Case Analysis Form

Task Sequence: Floor Mopping First Floor Rooms and Areas

Instructional Universe: First Floor Rooms and Areas (Nonpatient) at Kane Regional Center

Generic Response	Generic Stimulus	Generic Response Components	Variations Within Range of Simulation Response Examples	Potential Errors Outside Range
1. Take supplies from storeroom	a. 44 qt. bucket/wringer b. 1½ oz. A-33 c. Dust mop-24 in d. Mop-16 or 24 oz. e. Caution signs	a. Fill 2/3 warm water b. Add to water c. To room-with pan, brush, knife d. Push bucket - with mop e. To room with bucket/mop	e. Take 1 sign (small rooms), 3 signs (mid and large rooms)	
2. Move furniture	a. Movable furniture b. Heavy furniture	a. Move to clear an area b. Don't try to move	a. Away from wall/to wall (small room), to 1/3 room/area (large room/area) b. Desks, exam equipment, heavy tables etc.	
3. Place caution signs	a. Location b. Repeat	a. Place for cleared area b. Change placement	a. At entrance (small rooms), Ends/center of 1/3 room (lnrge room/area) b. 2nd and 3rd 1/3 room (large room/area)	a. Ends/center 1/2 length of hallway
4. Dust mop scrape up stuck on matter	a. Size of room b. Gum etc. c. Dust pile	a. Variation method b. Scrape with putty knife c. Pickup with pan/brush	a. Small "S" stroke (small room), push straight ahead (large room/area)	
5. Mop floor	a. Edge of area b. Center of area	a. Mop along baseboards b. Type of stroke	a. Around/under desks etc. (small room), along baseboards (large room/area) b. Small "S" stroke (small room), move backwards large "S" (large room/area)	
6. Return furniture	a. Other sections b. Original placement	a. Clear new section(s) b. Return when finished	a. Move back to wall (small room), move for 2nd and 3rd 1/3 (large room/area)	
7. Inspect work	a. Mopped floor b. Remaining soil	a. Look over all surfaces b. Spot mop (if needed)		
8. Return supplies	a. Equipment b. Full bucket	a. Return to storeroom b. Empty in wet sink		
9. Exception	a. Person(s) carts etc. on wet floor	a. Spot mop (if needed)	a. Spot mop if shoes, wheels leave a mark	

3. Selecting Simulation Response Examples

Following the analysis of the general case of actual response examples for each task sequence, simulation response examples were selected which sample the range of stimulus and response variations indicated on the General Case Analysis Form. In the selection of simulation response examples, attempts were made to adhere to the following general case guidelines, suggested by Horner, Sprague, and Wilcox (1982):

1. "Select the minimum number of training examples that sample the full range of stimulus and response variation in the instructional universe." (p. 88). The simulation response examples were selected to a representative sample of the stimulus/response variations in the six response examples for each task sequence. It is acknowledged that the selected examples will not encompass all of the variations in the instructional universe for each task sequence, rather they include consistent variations in generic responses which are to be performed on most of the response examples. The stimulus/response variations for damp wiping therefore include individual generic response components which differ from those in the simulation response examples and may yield potential errors during Probe sessions (See tables 1, 2, 3, and 4). It is anticipated that the errors derived from untaught generic response components will not hamper completion of Probe trials on specific actual response examples (e.g. drinking fountain) since the components included in Simulation Instruction will provide different yet similar procedures to those to be taught in Actual Job Instruction on the differing response examples.

2. "Select examples that contain equal amounts of new information" (p. 89). In selecting the simulation response examples the instructional universes

for each task sequence were analyzed to determine response examples which incororated all generic responses yet presented generic response component variations which significantly differ from the other response examples. Such variations as "don't polish" for the wheelchairs and the use of sani-flush and the toilet brush for the sinks and lavatories provide equal amounts of new information not encountered in the other damp wiping response examples. Similarly, the simulation response examples for floor mopping include furniture movement and caution sign placement variations which are not encountered in the actual response examples thus providing equal amounts of new information during simulation instruction sessions.

3. "Select examples that do not include consistent irrelevant stimuli", (p. 89). The use of the Task Sequence Validation instruments (Appendix C) assures that the generic responses in Simulation Instruction are similar to the actions performed by janitors and housekeepers at Kane and that the stimuli presented in the simulation response examples are relevant to the subsequent performance of the task sequences at the actual job site. Instruction conducted at the simulation site will reduce potentially distracting stimuli during task sequence acquisition e.g. interaction with co-workers, inquisitive staff, permitting Subjects to concentrate on performance of the simulation response examples. Although these irrelevant stimuli will be present at Kane, Instructors will conduct Probes and Actual Job Instruction sessons in isolation from Kane staff, permitting and encouraging interaction with Kane staff before and after sessions, and during lunch at Kane.

4. "Select examples that teach the student what not to do as well as what to do", (p. 89). The simulation response examples were selected because they contain specific generic response components which specify that

Subjects refrain from responses performed on other response examples or pay particular attention to a qualitative concern to be encountered in other response examples. Simulation Instruction on the damp wiping simulation response examples will therefore include the generic response component "don't polish" on wheelchairs which receive monthly spray cleaning and polishing at Kane, and a specification that the chrome and stainless steel on sinks and lavatories be polished without leaving streaks (a similar specification for dinking fountains and patient beds). The simulation response examples for floor mopping include caution sign placement and furniture movement variations unique to the size of the rooms/areas. In this manner Subject's will not move caution signs and furniture in sections when mopping small rooms and will use a general rule when moving all furniture whereby "if you can't move it easily, don't try to move it."

5. "Select examples that include significant exceptions", (p. 90). Low probability events which may occur at Kane are included in simulation instruction to provide Subjects' with the ability to identify and respond to anticipated occasional problems. In the damp wiping task sequence the exception "malfunctioning equipment" may hinder completion of a response example (inability to raise/lower the bed) or present safety considerations (missing parts on a partient's wheelchair). This exception will be taught by requiring Subjects to report missing wheelchair parts to the instructor during Simulation Instruction and report missing wheelchair parts and bed control malfunctions to nursing personnel during Actual Job Instruction. Exceptions during floor mopping instruction will require Subjects to determine whether persons, carts, or wheelchairs moving across a wet floor leave marks or tracks which require spot mopping of the newly soiled area. As specified in the Teaching the Simulation Response Examples section, the

planned exceptions "person walks on floor" and "missing wheelchair part" will be presented during every second simulation instruction session. During Probe and Actual Job Instruction sessions the exceptions will not be scheduled, however, instruction and Probe data collection will be conducted upon the natural occurrence of these exceptions.

6. "Select examples that are logistically feasible", (p. 90). A consideration in deciding to conduct community referenced instruction in a simulation environment is whether community instruction presents logistical problems in travel to and from community sites or during transition from one response example to another (Horner, McDonnell, Williams, & Voegelsberg, 1983). By delivering instruction in a simulation setting the simulation response examples, in this study, may be placed in close proximity to each other, allowing easy transitions, and instruction may be delivered in a setting which does not require staff/subject travel (except for Weekly Probe sessions, see Conducting Probe Trials). This arrangement will permit instruction on readily available response examples without the necessity of teaching Subject orientation to the various rooms and areas at Kane during simulation instruction.

Following these guidelines permits the two simulation response examples for damp wiping and floor mopping to be coordinated with the generic responses and task sequences used at the actual job site. The simulation response examples are specified on the Simulation Task Analysis Forms (Tables 5 and 6) which present the stimulus/response variations for each generic response across simulation response examples (See Simulation Task Analysis Forms for Damp Wiping and Floor Mopping, Tables 5 and 6).

4. Teaching the Simulation Response Examples

The study will utilize total task presentations (Gold, 1976) in

Table 5

Simulation Task Analysis Form

Task Sequence: Damp Wiping Patient Furniture and Equipment

Instructional Universe: Patient Rooms and Corridors at Kane Regional Center

Generic Response	Generic Stimulus	Generic Response Components	Variations in Simulation Response Examples: Wheelchair	Variations in Simulation Response Examples: Sink and Lavatory	Comments
1. Take supplies from cart, storeroom	a. 10 qt. bucket b. 1/2 oz. pack A-33 c. Housekeeping cart	a. Fill 2/3 warm water b. Add to water on cart c. Take to room	c. Take 1 clean cloth	c. Take 2 clean cloths	Data not included in % correct independent generic responses
2. Position equipment, move small items	a. Location b. On surfaces	a. Move away from walls etc. b. Move for cleaning		b. Place items on chair in vicinity c. Put 1/2 cup sani-flush in toilet	a. Potential error raise bed b. Potential error counters etc.
3. Wash	a. Loose soil b. All surfaces	a. Remove with brush/pad b. Wipe with cloth from bucket	a. N/A	a. N/A	a. Potential error b. dry fountain pot. error
4. Polish	a. All purpose polish b. Dry cloth	a. Spray all surfaces b. Wipe all surfaces	a. Don't polish	a. Chrome, stainless steel, dispensers only b. Beware of leaving streaks on metal	
5. Inspect work	a. Equipment/ furniture b. Remaining soil	a. Look at all parts b. Spot repeat 3 & 4	b. Repeat 3 only (if needed)		
6. Return supplies	a. Equipment/ furniture b. Cart c. Bucket	a. Original location b. To storeroom c. Empty in wet sink	a. Return against wall	a. Return small items to	Data included for last response example only
7. Planned exception	a. Broken equipment	a. Report to nurse	a. Report to instructor in simulation		

Table 6

Simulation Task Analysis Form

Task Sequence: Fluor Mopping First Floor Rooms and Areas

Instructional Universe: First Fluor Rooms and Areas (Nonpatient) at Kane Regional Center

Generic Response	Generic Stimulus	Generic Response Components	Variations in Simulation Response Examples		Comments
			Small Room - Move Furniture	Large Room/Area-Move Furniture	
1. Take supplies from storeroom	a. 44 qt. bucket/	a. Fill 2/3 warm water			Data not included in % correct independent generic responses
	b. 1½ oz. pack A-33	b. Add to water			
	c. Dust mop-24 in.	c. To room-with pan, brush, knife			
	d. Mop-16 or 24 oz.	d. Push bucket with mop			
	e. Caution signs	e. To room with bucket/mop	e. Take 1 sign	e. Take 3 signs	
2. Move furniture	a. Movable furniture	a. Move to clear an area	a. Move away from walls/ move to walls	a. Move to clear 1/3 room/area	
	b. Heavy furniture	b. Don't try to move	a. Desks etc.	b. Heavy tables etc.	
3. Place caution signs	a. Location	a. Place for cleared area	a. At entrance before moving	a. Place to mark of 1/3 area, ends and center	a. Potential error-hallways
	b. Repeat			b. Move to next cleared area	
4. Dust mop, scrape up stuck on matter	a. Size of room	a. Variation in method	a. Small "S" strokes in room	a. Push mop straight ahead, repeat to cover area	
	b. Gum etc.	b. Scrape with putty knife			
	c. Dust pile	c. Pick up with pan/brush			
5. Mop floor	a. Edge of area	a. Mop along baseboards	a. Around/under desks, behind moved furniture		
	b. Center of area	b. Type of stroke	b. Small "S" strokes	b. Move backwards, large "S" strokes	
6. Return furniture	a. Other sections	a. Clear new sections	a. Back to wall		
	b. Original placement	b. Return when finished			
7. Inspect work	a. Mopped fluor	a. Look over all surfaces			
	b. Remaining soil	b. Spot mop (if needed)			
8. Return supplies	a. Equipment	a. Return to storeroom			Data included for last response example only
	b. Full bucket	b. Empty in wet sink			
9. Planned exception	a. Person(s), carts etc. on wet flour	a. Spot mop (if needed)		a. If marks are left	

sequencing instruction in which all of the generic responses required by a particular response example are presented in each instructional trial. Should a subject encounter excessive difficulty performing one or more of the generic responses in a total task sequence the generic response(s) may be taught using multiple trials on each generic response component. In following this procedure a subject may be provided with additional trials on a deficit generic response when he or she completes the previous generic responses, and complete the total task after the specified number of repititions on the deficit generic response have been performed. These repeated trials may be presented until the subject attains an adequate level of proficiency on the generic response(s) and can complete the total task sequence without the additional trials.

Instructional sessions will be planned to provide each subject with instruction on two or more response examples for each task sequence such as mopping office and classroom floors, during each session. By providing instruction on multiple simulation response examples during each session, subjects will be provided with daily exposure to the full range of stimulus/response variation for each task sequence.

Simulation instruction on the damp wiping (housekeeping) task sequence will be conducted in the men's and women's bathrooms, and in the large activity room at TAC/W. TAC/W has two men's and two women's rooms which will be used as instructional sites. Each subject will receive simulation instruction on one men's room sink and lavatory and one women's room sink and lavatory. Subjects will also receive instruction on damp wiping the soap dispensers, paper towel/sanitary napkin dispensers, and shelves above the sinks as components of the generic responses "wash" and "polish" (See Simulation Task Analysis Form for Damp Wiping, Table 5).

An isolated corner of the large activity room at TAC/W will be the instructional site for simulation instruction on damp wiping wheelchairs. Each subject will receive instruction on two wheelchairs per session. Wheelchair damp wiping instruction will include generic response variations which require subjects to damp wipe bottom suspension parts and underneath wheelchair seats, thus approximating the stimulus/response variations encountered the actual response examples damp wiping patient furniture and patient bed. Additionally, the generic response "polish" is not included in the task sequence for damp wiping wheelchairs, providing an exception to the polishing of chrome and stainless steel on all other response examples (Table 1).

Simulation instruction on the floor mopping (janitorial) task sequence will be conducted in the four classrooms, the lunch area, and four small offices at TAC/W. Subjects will receive floor mopping instruction in two large rooms or areas (classrooms or lunch area) which require that furniture be moved in sections of one third of the room to accomodate dust mopping and mopping. The four offices will be used as simulation response examples which require movement of furniture out of the room and small "S" strokes when mopping. Simulation instruction will be provided to each subject in two of the offices during each floor mopping session. By providing instruction on the floor mopping simulation examples the range of furniture and sign placement variations in the actual response examples will be approximated in small rooms and large rooms or areas (Table 2).

During simulation instruction the subjects will receive group instruction on the janitorial simulation response examples and housekeeping simulation response examples. Two subjects will be placed in each group with one instructor conducting each janitorial and housekeeping simulation

instruction session. The group which received janitorial instruction in a morning instructional session will receive housekeeping instruction during the afternoon session while the morning housekeeping group receives janitorial instruction (See Appendix C, Scheduling Matrix).

Instruction during the initial sessions of simulation instruction will consist of each student receiving instruction on the same simulation response example prior to changing to the next response example. By conducting the initial simulation sessions with each student simultaneously working on the same response example, early high rate errors may be effectively corrected by the instructors and the data collected may accurately indicate the nature of deficit generic responses for each subject. When each subject in a group evidences an adequate level of independent performance for each task sequence (two or three non critical errors) instruction will change to a group format in which each subject is performing a different sequence of response examples during each session. This format approximates the independent work required at the actual job site where the Subjects will be isolated from the other Subjects in the project.

The instructors will initiate instruction on the task sequence for each simulation response example with a "supervisor prompt" such as "John, I'd like you to damp wipe two wheelchairs," following which each subject is to initiate the appropriate task sequence with the correct response example. The supervisor prompt is intended as an approximation of the directions to be given by the Housekeeping Department Supervisors when the subjects perform the task sequences in Actual Job Site Instruction.

It should be noted that in the task sequences for the simulation response examples Damp Wiping Wheelchairs and Mopping Large Rooms - Move

Furniture, a "Planned Exception" is included as a discrete generic response. These planned exceptions will be included in one trial, every other instructional session. Subjects will therefore be required to report a missing footrest (which the instructor has removed) to the instructor and spot mop footprints (after the instructor has walked on the wet floor) as correct responses to the planned exceptions.

The instructors will use a "least intrusive prompts strategy" (Snell, 1983, p. 123) in providing instructional correction procedures for each generic response component and generic response within the task sequences. Instructors will provide gradually increasing levels of assistance to facilitate subject performance of the desired generic response. The instructors will provide each subject with a successively more instrusive level of assistance until the generic response component is performed and upon subsequent trials attempt to decrease the assistance provided to the subject. The levels of assistance to be utilized in this study are defined as:

1. Physical guidance - hands-on assistance and manual guidance are required to complete some or all portions of a generic response;
2. Verbal instruction - repitition of the initial supervisor prompt or verbal directions to complete some or all portions of a generic response; and
3. Independent performance - subject initiates activity following the supervisor prompt or completes a generic response without supervisor assistance.

This numerical order arranges these levels of assistance from the most to least intrusive levels of assistance. Future references to the

levels, in this text, will pertain to "fading to a higher numbered level of assistance" whereby a less instrusive graduated assistance level is provided (See Data Collection Section).

5. Conducting Probe Trials

During the Baseline Probe, Simulation Instruction/Weekly Probe, and Follow-up Probe phases of this study noninstructional probe sessions will be conducted to assess each subject's level of independent performance on simulation and actual response examples for each task sequence. The probe sessions will serve three basic purposes: (a) to provide experimental control for subsequent simulation instruction and actual job instruction phases; (b) to assess for deficit generic responses prior to, during, and following simulation instruction; and (c) to determine the extent to which generic responses acquired in simulation generalize to actual job performance.

Baseline probe sessions conducted at both the simulation job site and actual job site will allow for the assessment of each subject's initial independent performance while damp wiping and floor mopping: (a) two simulation response examples at the simulation job site; (b) two actual response examples which are similar to the simulation response examples (Simulation Response Examples - Actual Job Site); and (c) the four actual response examples on which subjects will not receive simulation instruction.

During the Simulation Instruction/Weekly Probe phase weekly actual job site probe sessions will be conducted for each subject on the damp wiping and floor mopping task sequences. Independent subject performance will be assessed on the four noninstructional actual response examples and two simulation response examples at the actual job site (Simulation

Response Examples - Actual Job Site). Weekly actual job site probes will determine generalized independent performance across settings on the simulation response examples and across the general case of actual response examples. Subjects will be required to have attended a minimum of four Simulation Instruction sessions between Weekly Probe sessions for each task sequence. Subject absence from Simulation Instruction sessions will, therefore, produce minimal negative effects on probe performance.

Maintenance of generalized independent subject performance of the damp wiping and floor mopping task sequences will be measured during a follow-up actual job site probe phase. During the Follow-up Probe phase two consecutive noninstructional probe sessions, for each subject/task sequence, will be conducted to determine the endurance of generalized independent performance of the task sequences following the simulation instruction phase.

To facilitate independent subject attempts at performing the task sequences, each Baseline and Probe session will begin with an instructional sequence for Generic Response number 1 (Take supplies from cart, storeroom). When teaching Generic Response number 1, each instructor will use a least intrusive prompts strategy (Snell, 1983) when helping each subject assemble supplies at the work site.

After teaching Generic Response number 1, instructors will assess independent (non-trained) performance on the remaining generic responses for each response example. This assessment will be preceded by a "supervisor prompt" to damp wipe or mop each particular response example e.g. "Mary, damp wipe the bed". Following this supervisor prompt the subject is to perform the remaining generic responses without instructor intervention. Should failure to perform a generic response, such as "move

furniture", result in subject inability to complete the task sequence on a particular response example, the probe trial on that response example, will be terminated, all remaining generic responses scored as nonindependent (See Data Collecion section), and probe measurement shifted to the next response example.

The generic response "Return Supplies" for each task sequence will be performed at the conclusion of the Baseline or Probe session and measured as an untrained generic response (See Data Collection Section). Should the previously mentioned inability to complete a task sequence occur on the final response example of a probe session, instructors will signal the end of the session by saying "we're done now", at which time performance of the generic response "Return Supplies" will be assessed.

6. Actual Job Instruction

Individual instruction on the six actual response examples for each task sequence will occur after the Follow-up Probe phase. The purposes of the Actual Job instructional sessions are to further assess generalization of independent generic responses to the general case of response examples at the actual job site, and to remediate any deficit generic responses hindering actual work performance of the task sequences. The instructors will, therefore, use a least intrusive prompts strategy in teaching all six response exsmples for each task sequence at the actual job site.

Prior to each Actual Job Instruction session each individual subject will receive directions about what rooms/areas to mop or what room to damp wipe from a Housekeeping Department Superviser. Following this "real work supervisor prompt" each subject will independently perform the task sequence(s) on the assigned response examples, with minimal instructor intervention.

7. Scheduling Instruction and Probe Sessions

All instruction and probe sessions will be conducted in two daily two and a half hour sessions from 9:00 A.M. to 11:30 A.M. and from 12:30 P.M. to 3:00 P.M. at the simulation and actual job sites. Baseline damp wiping and floor mopping probes at the simulation and actual job sites will be scheduled on alternating days with all subjects receiving damp wiping probes on one day and receiving janitorial probes the next day. The four subjects will be grouped in two groups of two subjects according to the scheduling of simulation instruction (Group I and Group II). During the Baseline Probe phase this group arrangement will allow the subjects in one group to receive individual probes on the simulation response examples while the other group is probed individually at the actual job site. The group which received individual probes on the simulation response examples in the A.M. session will therefore be probed on the actual response examples at the actual job site in the P.M. session, and the group which had been probed individually on the actual response examples in the A.M. will recive P.M. probes on the actual response example.

Simulation instruction sessions will be alternated between different task sequences for each group during A.M. and P.M. sessions. The group which had received damp wiping simulation in the A.M. session will receive floor mopping simulation instruction in the P.M. session whereas the other group will receive the opposite scheduling of task sequences (Appendix C, Scheduling Matrix).

Weekly individual probes at the actual job site will correspond to the schedule for simulation instruction with damp wiping probes occuring on Tuesdays and floor mopping probes occuring on Thursdays at the usual times scheduled for simulation instruction on each task sequence. Subjects will

therefore be scheduled for floor mopping simulation instruction and damp wiping probes on Tuesdays, and damp wiping simulation instruction and floor mopping probes on Thursdays.

Individual Follow-up Probes at the actual job site will be scheduled according to each subjects simulation instruction schedule. Should a subject achieve criteria on one task sequence while still receiving simulation instruction on the other task sequence, consecutive Follow-up Probes will replace simulation instruction for that particular task sequence and subject.

Individual Actual Job Instruction sessions will again be alternated according to the previous Simulation Instruction schedules for each subject. Actual Job Instruction will require the scheduling of one instructor for each subject performing the task sequences in different areas at the actual job site. In the likelihood of overlap between Simulation Instruction or Follow-up Probe phases for a particular subject on the different task sequences, an instructor will provide group Simulation Instruction or individual Follow-up Probes in one task sequence session and deliver individual Actual Job Instruction in the other session.

Tentative simulation instruction and probe schedules are delineated on a Scheduling Matrix (Appendix C). Subject and group schedules are arranged on the matrix according to task sequence assignments during Baseline Probe and Simulation Instruction/Weekly Probe phases. Additionally, preliminary schedules for Instructors and Data Collectors are specified across subjects/groups and Simulation/Weekly Probe sessions (Appendix C).

E. Data Collection

Discrete trial procedural recording data will be collected for each

subject during all probe and instructional trials presented in this study. Instructors and Data collectors (See Interobserver Reliability section) will be familiarized with instruction and data collection procedures by performing both task sequences with all of the simulation response examples and practicing the instructional procedures and data collection methods during a role play simulation instruction/interobserver session. An Instructor/Data Collector procedures manual will be developed and used to train four Instructors/Data Collectors and a fifth person as a substitute Data Collector.

The four Instructors/Data Collectors will be assigned to different Subjects/groups, and roles as Instructors or Data Collectors, on a daily basis. The changing assignments will provide each Instructor/Data Collector with an opportunity to work with all other staff members during probe and instruction phases. This rotation of Instructors and Data Collectors will conceivably provide each Subject with equal exposure to all staff members and may alleviate potential Subject dependency on a particular staff person (See Appendix E, Scheduling Matrix).

Each Instructor/Data Collector will be provided a clipboard for each Subject containing a data sheet for each simulation and actual response example (See Appendix D, Data Sheets). During simulation and actual job instruction sessions each generic response component which requires an instructional correction procedure (See Teaching the Simulation Response Examples) will be scored according to the numbered level of assistance used for the particular generic response component (1, 2, or 3). At the conclusion of each generic response Instructors/Data Collectors will indicate the most intrusive, lowest numbered, level of assistance provided on all of the components of the generic response in the "Total" generic

response spaces provided on each data sheet.

As previously specified, all probe sessions for each task sequence will begin with an instructional trial on Generic Response number 1 "Take supplies from cart, storeroom" (See Conducting Probe Sessions). Instruction on Generic Response number 1 will enable independent Subject attempts at performing each task sequence rather than termination of probe trials because of failure to procure the proper supplies. Since instruction will be provided on generic response number 1 during all experimental sessions, the procedural data for this initial generic response will not be factored into total percentage data for "Percent Correct Independent Generic Responses" (See Experimental Design section).

After teaching Generic Response number 1, the Instructors/Data Collectors will assess Independent (3) non-trained performance on the remaining generic responses for each of the response examples in each damp wiping and floor mopping Probe session. Each generic response component which is performed incorrectly or not performed will be scored with a "0" in the corresponding box (See Appendix D, Data Sheets). The space provided for scoring the total generic response will therefore be scored according to Independent (3) performance of the generic response vs. non-independent (C) performance of the generic response.

Measurement of generic responses performed during Instruction and Probe sessions will be converted to the percentage of generic responses performed at the 5-Independent level on the simulation response examples, simulation response examples - actual job, and actual response examples. The "Percent Correct Independent Generic Responses" for each task sequence, during each session, will be derived by dividing the total number of independent generic responses by the total number of generic responses

measured and multiplying by 100.

The general guidelines for making instructional decisions in this study will involve an on going analysis of: a. consistent errors on each generic response component; b. the lowest numbered level of assistance required to complete each generic response; and c. the percent correct independent generic responses for each task sequence in Simulation Instruction and Weekly Probe sessions. Instructors will attempt to fade correction procedures to a higher numbered level of assistance on successive trials with no more than three consecutive trials at level 2 (Verbal instruction) on a particular generic response. Should a generic response require level 1 (Physical guidance) for three consecutive trials or indicate that errors occurred on most of the geeric response components during three consecutive trials, the particular generic response will receive multiple instructional trials during Simulation Instruction sessions until the errors are corrected.

Decisions for terminating Simulation Instruction will be based on criteria derived from percent correct independent generic responses in Simulation Instruction and Weekly Probes at the actual job site. Guidelines for completing the Simulation Instruction phase will include 90 percent correct independent generic responses on the simulation response examples combined with 70 percent correct independent generic responses in a Weekly Probe session. Should a subject attain Simulation Instruction criteria yet fail to reach criteria on a subsequent Weekly Probe, an additional simulation response example will be provided in the following four Simulation Instruction sessions (See Teaching the Simulation Response Examples). Failure to generalize to criterion performance in the next Weekly Probe session will necessitate remediation of deficit generic

responses in the more functional and reinforcing actual job environment, thus a change to Follow-up Probe and Actual Job Instruction will be made regardless of generalized performance following Simulation Instruction sessions using the additional simulation response example.

F. Experimental Design

The study will use a single subject, multiple baseline across subjects and behaviors experimental design (Kazdin, 1973), which incorporates a "Multiple Probe Technique" (Horner & Baer, 1978, p. 189) during Baseline Probe, Simulation Instruction/Weekly Probe, and Follow-Up Probe phases (Figure 1). This design allows for experimental control through systematic and sequential replication of the same sequence of probe and instruction phases for both task sequences across all Subjects. Across behaviors control will be accomplished by counter balancing the initiation of the Simulation Instructional Weekly Probe phase for one task sequence with continued Baseline Probes of a second task sequence for each Subject. The continued Baseline Probes will enable across subjects control by providing a comparison of the effects of simulation instruction on the performance of a task sequence for two Subjects, while the other two Subjects continue Baseline Probes of the same task sequence.

Through extending Baseline Probe sessions across subjects and behaviors, the design will permit control of potential interactions between the damp wiping and floor mopping task sequences and the subjects in each group. Additionally, the same sequence of probe and instruction phases will be replicated for both task sequences across all Subjects, permitting an analysis of methodological efficacy through systematic replication.

Subject performance during each experimental session will be

△ Simulation Response Examples; ○ Simulation Response Examples-Actual Job; ● Actual Response Examples

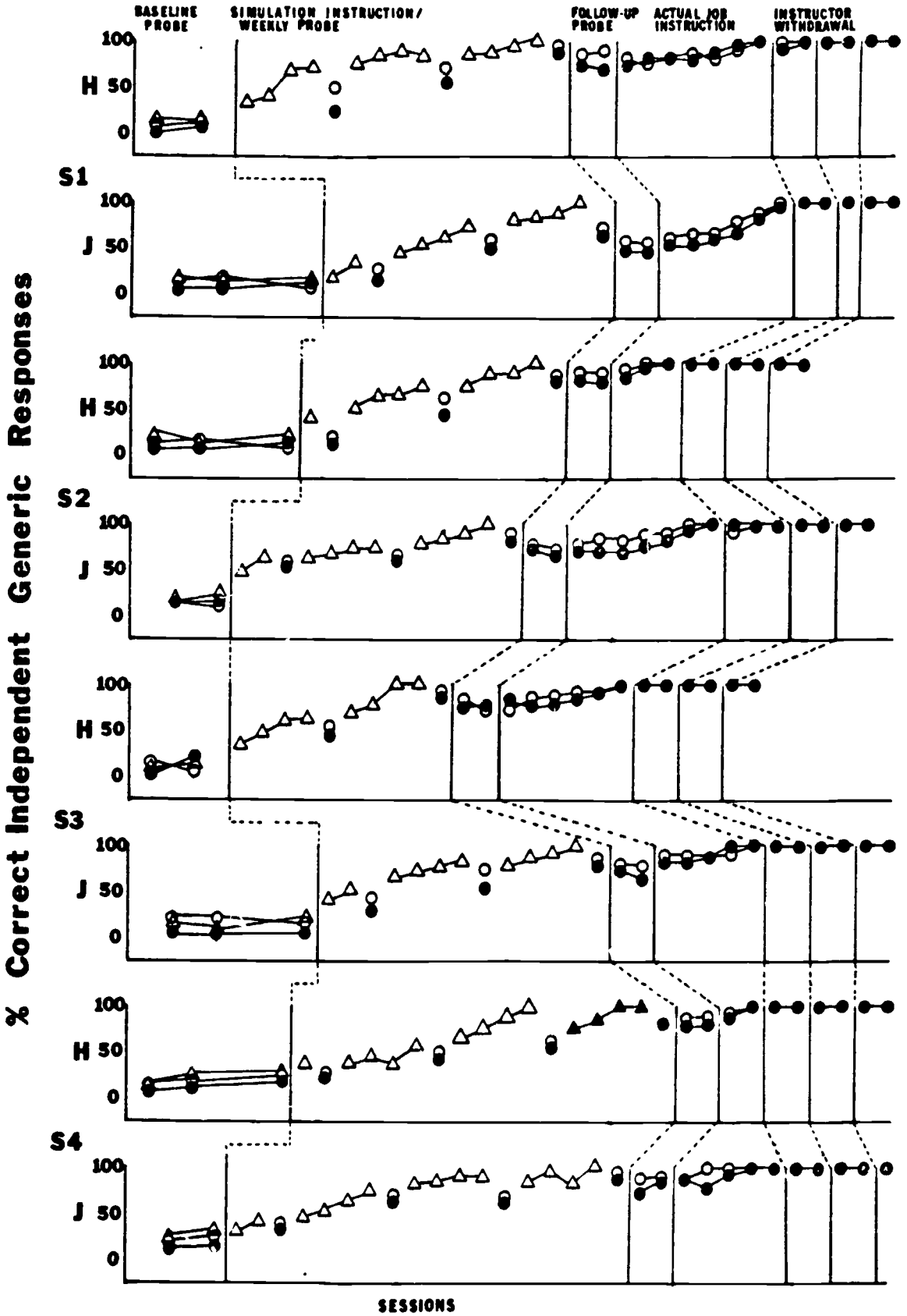


Figure 1. Multiple baseline across subjects and behaviors design. Percent correct independent generic responses on Housekeeping and Janitorial task sequences.

presented as the Percent Correct Independent Generic Responses performed at the Independent (3) level of assistance across all of the experimental phases. The specific experimental phases in this study will include: (a) Baseline Probe; (b) Simulation Instruction/Weekly Probe; (c) Follow-up Probe; (d) Actual Job Instruction; and (e) Instructor Withdrawal phases, in which the previously specified instruction, probe, and data collection proedures will be used (Figure 1).

Baseline Probe

Baseline Probe sessions conducted at the simulation job site and actual job site will measure each subject's initial uninstructed performance of both task sequences. Dependent measures for each task sequence in the Baseline Probe phase will include Percent Correct Independent Generic Responses on: (a) two simulation response examples at the simulation job site; (b) two similar response examples at the actual job site (simulation response examples - actual job site); and (c) four actual response examples on which subjects will not receive simulation instruction.

Baseline Probe trials will be provided in the manner specified in the Conducting Probe Trials section. Probe trials for each task sequence will be initiated with instruction on Generic Response number 1 (Take supplies from cart, storeroom), followed by a "supervisor prompt" and attempts to complete remaining generic responses without Instructor intervention.

Housekeeping and janitorial Baseline Probe trials will be conducted on alternating days in which housekeeping probes will be conducted one day and janitorial probes will be conducted the next day. Baseline Probes at the actual job site and simulation job site will be alternated between A.M.

and P.M. sessions with two Subjects receiving actual job probes while the other two Subjects receive simulation probes (See Scheduling Instruction and Probe Sessions, and Baseline Probe sessions, provided each subject on both task sequences, will be scheduled in a manner similar to that depicted in Figure 1. However, the number of Baseline Probe sessions may need to be extended for individual Subjects to allow stable Baseline Probe data or contrast between baseline performance and acquisition of 50% Correct Independent Generic Responses.

Simulation Instruction/Weekly Probe

Simulation Instruction sessions will be conducted at the simulation job site on two simulation response examples for each task sequence. Two instructional trials on each of the simulation response examples will be provided in each Simulation Instruction session.

As specified in the Teaching the Simulation Response Examples section, the simulation respose examples for the damp wiping (Housekeeping) task sequence will include wheelchairs, and sinks and lavatories at the simulation job site. Similarly, the simulation response examples for the floor mopping (Janitorial) task sequence will include classrooms and the lunch area, and small offices at the simulation job site. The simulation response examples were selected because the combination of the two chosen simulation response examples samples the range of stimulus/response variations in the instructional universe of six response examples for each task sequence (See Selecting Simulation Response Examples section).

Instructors will use a "least intrusive prompts strategy" (Snell, 1983, p. 123) in providing instructional correction procedures for each generic response in the simulation response examples (See Teaching the Simulation Response Examples). The level of instructor assistance required

on each generic response will be noted on a procedural data sheet for each simulation response example. The percentage of generic responses performed at the Independent (5) level of assistance on all of the simulation response examples presented in each Simulation Instruction session will be indicated as the Percent Correct Independent Generic Responses for each subject and task sequence (Figure 1).

Weekly Probes of the simulation response examples-actual job and actual response examples will be conducted for each subject and task sequence (See Conducting Probe Trials). Weekly probes will be scheduled according to each subject's Simulation Instruction schedule, alternating between Tuesday housekeeping probes and Thursday janitorial probes (See Appendix C, Scheduling Matrix).

The Weekly Probe sessions will serve as indicators of generalized independent subject performance at the actual job site, resulting from improved performance of the task sequences in simulation instruction. The Percent Correct Independent Generic Responses in Weekly Probe sessions will, therefore, be combined with similar simulation Instruction data to serve as criteria measures for termination of Simulation Instruction sessions (See Data Collection section). As stated in the Data Collection section, failure to reach weekly probe criteria upon attainment of criteria on the simulation response examples will result in the introduction of an additional simulation response example during the following four Simulation Instruction sessions (the three simulation response examples will be denoted as).

Follow-up Probe

During the Follow-up Probe phase, two consecutive actual job probe sessions for each Subject task sequence, will be conducted to determine the

endurance of generalized independent performance of the task sequences immediately following the Simulation Instruction/Weekly Probe phase. Follow-up Probe sessions will assess continued Percent Correct Independent Generic Responses on the simulation response examples-actual job site and the actual response examples using the same probe procedures as in Baseline Probes and Weekly Probes (See Conducting Probe Sessions section).

Actual Job Instruction

The function of the Actual Job Instruction phase will be to provide Subjects with individual instruction on all of the response examples required in damp wiping and floor mopping at the actual job site. The Actual Job Instruction sessions will further assess generalization of Percent Correct Independent Generic Responses on the simulation response examples - actual job and actual response examples, and will remediate any deficit generic responses hindering independent work performance.

Prior to each Actual Job Instruction session Subjects will receive directions as to the rooms/areas to mop or room to damp wipe from a Housekeeping Department Supervisor. Following this "real work supervisor prompt" each Subject will perform the task sequence on assigned response examples, with a minimum level of one-to-one instructor assistance on each generic response (See Actual Job Instruction section). It should be noted that those subjects who achieved 100% correct independent generic responses on the final Weekly Probe and two Follow-up Probes will not be required to receive Actual Job Instruction, rather they will receive the procedures specified in the Instruction Withdrawal phase.

Instructor Withdrawal

In the Instructor Withdrawal phase, individual instructor supervision will be systematically withdrawn through gradually decreasing

the frequency of instructor interaction with each Subject at the actual job site. The function of this phase will be to assess whether instructor intervention may be efficiently withdrawn while Subject's Percent Correct Independent Generic Response level is maintained. The Instructor Withdrawal phase will therefore involve a process in which supervisory control is shifted from Instructors to the Housekeeping Department Supervisors. Instructor contact will be withdrawn from each Subject according to the following schedule of Instructor Withdrawal sub-phases:

1. The Instructor will be present, with the Subject, at the beginning and end of each session. Following an initial real work supervisor prompt, the Subject will be accompanied to the location of the response examples by the Instructor. The Instructor will observe the initiation of the task sequence and leave the subject to perform the remaining response examples independently while the Instructor remains on the floor on which the Subject is working, out of sight of the Subject. At the conclusion of each session the Instructor will contact the Subject and verbally evaluate Subject performance on the actual response examples with the subject.

2. The Subject will receive a real work supervisor prompt and initiate the task sequence independently. The Instructor will remain on the same floor, and verbally evaluate performance with the subject at the end of each session.

3. The Subject will initiate and conclude each session independently without the Instructor present. The Instructor will be on the same floor yet will not contact the Subject at any time during each session.

In the Instructor Withdrawal phase, Instructor intervention during the performance of response examples will occur only upon housekeeping or nursing staff request, or to help a Subject remedy a specific safety

hazzard. Discrete trial probe data will be collected during the Instructor Withdrawal phase by Data Collectors who will not have served as Instructors during the previous phases of the study. These independent Data Collectors will position themselves away from the Subject(s) and will not interact with the Subject(s) during each Instructor Withdrawal session. The criteria for each of the instructor withdrawal sub-phases will be established as independent Data Collector data sheets indicating independent performance on all generic resonses during two consecutive sessions within each sub phase.

G. Interobserver Reliability

Data Collectors will collect interobserver reliability data by performing parallel measurements of each Subject's performance during selected sessions in all experimental phases. Interobserver reliability sessions will consist of both the Instructor and Data Collector scoring identical data sheets for a designated Subject and task sequence. Subsequent comparisons of Instructor and Data Collector scores for each generic response component in the interobserver reliability sessions will indicate the extent to which instructional and measurement procedures were reliably performed for all Subjects, task sequences, and experimental conditions.

Levels of interobserver agreement will be derived from a comparison of Instructor and Data Collector agreement on the occurrence/nonoccurrence of generic response components performed at the Independent (3) level during an interobserver reliability session. Interobserver agreement will be defined as: (a) Both data sheets indicating that a particular generic response was performed at the 3-Independent level; or (b) Both data sheets indicating that a particular generic response was not performed at the

3-Independent level (levels 1,2). Disagreements will be scored when one data sheet indicates 3-Independent performance on a generic response while the other data sheet does not.

Interobserver agreement levels will be determined by dividing the number of agreements by the number of agreements plus disagreements and multiplying by 100 for each interobserver reliability session. Final interobserver reliability data will indicate the levels of agreement within each experimental phase, the variability of interobserver agreement across the entire study (high and low levels), and the mean level of agreement across all experimental phases.

Scheduling Interobserver Relisbility Sessions

The scheduled frequency of interobserver reliability sessions will be adjusted in each experimental phase according to the availability of Data Collectors and the desired frequency of interobserver reliability sessions for each Subject. In the Baseline Probe phase Data Collectors will collect reliability data for each Subject during each simulation and actual job probe session. An Instructor and Data Collector will therefore assess one Subject's probe performance on the designated response examples before assessing a second Subject's performance on the response examples (See Conducting Probe Sessions). It is anticipated that two Subjects may be assessed consecutively during each two and a half hour Baseline Probe session. In the subsequent phases, Subject acquisition of the task sequences will result in a longer time needed to complete the response examples, thus requiring the simultaneous scheduling of probes for the two Subjects in each group.

As discussed in the Scheduling Instruction and Probe Sessions sections, Subjects will be grouped in two groups of two Subjects (Group

I=Subjects 1 and 3; Group II=Subjects 2 and 4) attending alternating damp wiping and floor mopping Simulation Instruction sessions in the mornings and afternoons. During the Simulation Instruction/Weekly Probe phase an Instructor and Data Collector will be present at all Monday, Wednesday, and Friday Simulation Instruction sessions. On these non probe days, the Data Collectors will conduct interobserver reliability measurements with one Subject in each group. As tentatively scheduled, each Subject will receive interobserver reliability measurements on both task sequences in three instructional sessions during a two week cycle of Simulation Instruction (See Appendix C, Scheduling Matrix).

Weekly Probe sessions, at the actual job site, will alternate between Tuesday damp wiping probe sessions and Thursday floor mopping probe sessions (See Experimental Design section). Subject's will be assigned to A.M. or P.M. probe sessions according to their Simulation Instruction schedules, therefore the group which receives A.M. damp wiping instruction will receive a damp wiping probe on Tuesday A.M., etc. Two Instructors and one Data Collector will conduct each Weekly Probe session. One Subject in each group will be individually probed at the actual job site by one Instructor while the other Subject is probed on a different set of the same response examples (such as a different patient room) with an Instructor and a Data Collector present for interobserver reliability measurement. It should be noted that on Weekly Probe days, Simulation Instruction on the non probed task sequence, e.g. floor mopping on Tuesday, will be provided by one instructor for both groups in the A.M. and P.M. sessions (See Appendix C, Scheduling Matrix).

During the Follow-up Probe phase, interobserver reliability sessions will be conducted in a manner similar to those in the Weekly

Probes. Follow-up Probes will be scheduled according to group Simulation Instrution schedules. On scheduled Weekly Probe days Subjects receiving a Follow-up Probe will be prioritized for interobserver reliability measurement.

In the Actual Job Instruction phase the four Instructors/Data Collectors will be simultaneously providing one-to-one instruction to the four Subjects at the actual job site. This scheduling arrangement will require the scheduling of adjacent response examples for both Subjects in a group during two days each week. In this manner, damp wiping instruction will be conducted in two patient rooms, next to or across the hall from each other, and floor mopping instruction will be conducted on response examples which are in close proximity to each other, such as the two sections of the staff dining room, side by side offices etc. (See Appendix B, Kane Regional Center Floor plans). On interobserver reliability days Instructors/Data Collectors will perform a dual role by serving as an Instructor with one Subject while collecting interobserver reliability data on the Subject performing the adjacent response examples.

Similar procedures will be used in collecting interobserver reliability data during one session in each Instructor Withdrawal sub-phase. Adjacent response examples will again be scheduled permitting Data Collectors to collect data for two subjects during interobserver reliability sessions.

H. Data Analysis

The data for each Subject, for all experimental phases and conditions will be analyzed as to accelerative or decelerative trends within each phase, and variability of Percent Correct Independent Generic Respon. on instruction and probe measures within and across phases.

Comparisons of individual Subject peak (highest) Percent Correct Independent Correct Generic Responses on Baseline Probes and Weekly Probes will be provided to assess generalized performance during Simulation Intruction. Additionally, comparisons of individual Subject mean Percent Correct Independent Generic Response levels during Baseline Probe and Follow-up Probe phases will be provided. These comparisons will indicate the extent to which the generalized effects of Simulation Instruction are maintained over repeated Follow-up Probes.

Simulation Instruction and Weekly Probe data will be evaluated according to: (a) The number of Simulation Instruction sessions needed to attain Simulation Instruction/Weekly Probe criteria for each Subject/task sequence (See Data Collection section); (b) The Percent Correct Independent Generic Response levels on Weekly Probes when criteria is achieved for each Subject/task sequence; and (c) A comparison of generalized performance on Weekly Probes of simulation response examples - actual job and actual response examples for each Subject/task sequence. This evaluation will indicate the efficacy of using the decision guidelines to determine termination criteria (See Data Collection section), and the effect of Simulation Instruction on generalized performance of similar response examples in a different setting and different response examples in a different setting.

An analysis of common errors during Weekly Probes will be provided in the final text. This analysis will address the percentage of error responses on each generic response and generic response component through the development of an error analysis matrix. Through analyzing errors in such a manner a determination may be made as to whether consistent errors are performed on generic response components which are not within the range

of stimulus/response variation encountered in the teaching of the simulation response examples (See Tables 1 and 2, Stimulus/Response Variation Matrix's).

During one session in each experimental phase a supervisor at Kane Regional will conduct a supervisor evaluation (Appendix F), evaluating subject performance, behavior, and the thoroughness/quality of the completed response examples for each Subject/task sequence. This procedure will indicate the correspondence between Subject performance and Kane's expectations, of new employees, and appraise Subject acquisition of the task sequences across phases according to Kane Regional Center employee criteria.

Verbal reports from Supervisors and co-workers concerning positive or negative perceptions of Subject performance and behavior will be included in the results of the study. Job offers or Supervisor/Director employment recommendations will also be reported although the pursuit of permanent employment will be the responsibility of the school district, the adult center, or each Subject's parents.

REFERENCES

References

Albin, T.J., Stark, J.A., & Keith, K.D. (1979). Vocational training and placement: Behavior analysis in the natural environment. In G. T. Bellamy, G. O'Connor, & O. C. Karan (Eds.) Vocational rehabilitation of severely handicapped persons: Contemporary service strategies (p.p. 161-180). Baltimore: University Park Press.

Becker, W.C. & Engelmann, S. (1978). Systems for basic instruction: Theory and practice. In A. C. Catania & T. A. Brigham (Eds.) Handbook of applied behavior analysis: Social and instructional processes (p.p. 325-377). New York: Irvington.

Bellamy, G.T., Horner, R.H. & Inman, D.P. (1979) Vocational habilitation of severely retarded adults: A direct service technology. Baltimore: University Park Press.

Bellamy, G.T., horner, R.H., Sheehan, M.R., & Boles, S. (1980). Community programs for severely handicapped adults: An analysis. The Journal of the Association for the Severely Handicapped, 4, 307-324.

Bellamy, G.T., Rose, H., Wilson, D.J., & Clarke, J.Y. (1982). Strategies for vocational preparation. In B. Wilcox & G. T. Bellamy (Eds.) Design of high school programs for severely handicapped students (p.p. 139-152). Baltimore: Paul H. Brookes.

Bellamy, G.T., Sheehan, M.R., Horner, R.H., & Boles, S.M. (1980). Structured employment and workship reform: Equal rights for severely handicapped individuals. Eugene, OR: University of Oregon Center on Human Development.

Belmore, K. & Brown, L. (1978). A job skill inventory strategy designed

for severely handicapped potential workers. In N. Haring & D. Bricker (Eds.) Teaching the severely handicapped, Vol. 3. Columbus: Special Press.

Brody, J.F. (1975). Pennhurst assessment/program tool, Spring City, PA: Pennhurst Center.

Brown, L. (1983 September). Teaching severely handicapped students to function in non-sheltered vocational environments. Presentation at the First Annual Conference of the Adult Day Program Providers of Western Pennsylvania, Clarion, PA.

Brown, L., Nietupski, J., & Hamre-Nietupski,S. (1976). The criterion of ultimate functioning. In M. A. Thomas (Ed.) Hey don't forget about me! (p.p. 2-15). Reston, VA: CEC Information Center.

Brown, L., Nisbet, J., Ford, A., Sweet, M., Shiraga, B., York, J., & Loomis, R. (1983). The critical need for nonschool instruction in educational programs for severely handicapped students. The Journal of the Association for the Severely Handicapped, 8 (3), 71-77.

Certo, N.J., Schwartz, R., & Brown, L. (1977). Community transportation: Teaching severely handicapped students to ride a public bus system. In N. J. Haring & L. J. Brown (Eds.) Teaching the severely handicapped, Vol. 2. New York: Grune and Stratton.

Conant, R.C. (1980). Prevocational competency rating scale for moderately and severely retarded students. Unpublished doctoral dissertation, University of Pittsburgh.

Coon, M.E., Vogelsberg, R.T., & Williams, W. (1981). Effects of classroom public transportation instruction on generalization to the natural environment. The Journal of the Association for the Severely Handicapped, 6 (2), 46-53.

Dratman, R.S., Hammer, D., & Rosenbaum, M.S. (1979). Assessing generalization in behavior modification with children: The generalization map. Behavioral Assessment, 1, 203-219.

Freagon, S., Wheeler, J., Hill, L., Brankin, G., Costello, D., & Peters, W.M. (1983). A domestic training environment for students who are severely handicapped. The Journal of the Association for Persons with Severe Handicaps, 8 (4), 49-61.

Giangreco, M.F. (1983). Teaching basic photography skills to a severely handicapped young adult using simulated materials. The Journal of the Association for the Severely Handicapped, 8 (1), 43-49.

Greenleigh Associates (1975). The role of sheltered workshops in the rehabilitation of the severely handicapped. New York: Greenleigh Associates.

Guttman, N. & Kalish, H.I. (1956). Discriminability and stimulus generalization. Journal of Experimental Psychology, 51, 79-88.

Hill, M., Cleveland, P., & Pendleton, P. (1982). Considerations for replication of a job placement program for severely disabled persons. In P. Wehman & M. Hill (Eds.) Vocational training and placement of severely disabled persons: Project employability, Vol. 2 (p.p. 94-119). Richmond, VA: Virginia Commonwealth University.

Horner, R.D. & Baer, D.M. (1978). Multiple probe technique: A variation of the multiple baseline. Journal of Applied Behavior Analysis, 11 (1), 189-196.

Horner, R.H., Bellamy, G.T., & Colvin, G.T. (1983). Responding in the presence of non-trained stimuli: Implications of generalization error patterns. Unpublished Manuscript, University of Oregon, Eugene, OR.

Horner, R.H. & McDonald, R.S. (1982). Comparison of single instance and general case instruction in teaching a generalized vocational skill. The Journal of the Association for the Severely Handicapped, 8, 7-20.

Horner, R.H., McDonnell, J.J., & Bellamy, G.T. (1984). Teaching generalized skills: General case instruction in simulation and community settings. Unpublished manuscript, University of Oregon, Eugene, OR.

Horner, R.H., Sprague, J., & Wilcox, B. (1982). General case programming for community activities. In B. Wilcox & G. T. Bellamy (Eds.) Design of high school programs for severely handicapped students, (p.p. 61-98). Baltimore: Paul H. Brookes.

Horner, R.H., Williams, J.A., & Steveley, J.D. (1984). Acquisition of generalized telephone use by students with severe mental retardation. Unpublished manuscript. University of Oregon, Eugene, OR.

Hovland, C.I. (1937). The generalization of conditioned responses. I. The sensory generalization of conditioned responses with varying frequencies of tone. Journal of General Psychology, 17, 125-148.

Howse, J. (1983). Position paper on adult day services for persons with mental retardation. Harrisburg, PA: Commonwealth of Pennsylvania, Department of Public Welfare.

Howse, J. (1984, September). Opening address. Presentation at the Second Annual Conference of the Adult Day Program Providers of Western Pennsylvania, Clarion, PA.

Hull, C.L. (1943). Principles of behavior, New York: Appleton-Century Crofts.

John J. Kane Hospital (1981). Housekeeping department orientation manual. Pittsburgh: Allegheny County Institution District.

Kazdin, A.E. (1973). Methodological and assessment considerations in evaluating reinforcement programs in applied settings. Journal of Applied Behavior Analysis, 6, 517-531.

Kratochwill, T.R. (Ed.) (1978). Single subject research: Strategies for evaluating change. New York: Academic Press.

Lynch, K.D. (1979). Toward a skill oriented prevocational program for trainable and severely mentally impaired students. In G. T. Bellamy, G. O'Connor, & O. C. Karan (Eds.) Vocational rehabilitation of severely handicapped persons: Contemporary service strategies (p.p. 253-266). Baltimore: University Park Press.

McDonnell, J.J., Horner, R.H., & Williams, J.A. (1984). Comparison of three strategies for teaching generalized grocery purchasing to high shool students with sever handicaps. The Journal of the Association for Persons with Severe Handicaps, 9, (2), 123-133.

Office of Education, Department of Health, Education, and Welfare (1977). Public law 94-142: Education of handicapped children, part II. Federal register, 42 (163), 42474-42518.

Page, T.J., Iwata, B.A., & Neef, N.A. (1976). Teaching pedestrian skills to retarded persons: Generalization from the classroom to the natural environment. Journal of Applied Behavior Analysis, 9, (4), 433-444.

Parcway Industries (1983). Work habits rating scale. Pittsburgh: Allegheny Chapter A.R.C.

Rusch, F. & Mithaug, D. (1980). Vocational training for mentally

retarded adults: A behavior analytic approach. Champaign, IL: Research Press.

Schalock, R.L. & Karan, O.L. (1979). Relevant assessment: The interaction between evaluation and training. In G. T. Bellamy, G. O'Connor, & O. C. Karan (Eds.) Vocational rehabilitation of severely handicapped persons: Contemporary service strategies, (p.p. 33-54). Baltimore: University Park Press.

Skinner, B.F. (1953). Science and human behavior. New York: Mac Millan.

Snell, M.E. (1983). Implementing and monitorig the IEP: Intervention strategies. In M. E. Snell (Ed.) Systematic instruction of the moderately and severely handicapped. 2nd Edition. Columbus. OH: Charles E. Merrill.

Snell, M.E. & Smith, D.D. (1983). Developing the IEP: Selecting and Assessing Skills. In M. E. Snell (Ed.) Systematic instruction of the moderately and severely handicapped. 2nd Edition. Columbus, OH: Charles E. Merrill.

Sprague, J.R. & Horner, R.H. (In press). The effects of single instance, multiple instance, and general case training on generalized vending machine use by moderately and severely handicapped students. Journal of Applied Behavior Analysis.

Stokes, T.F. & Baer, D.M. (1977). An implicit technology of generalization. Journal of Applied Behavior Analysis, 10, 349-367.

Terrace, H. (1966). Stimulus control. In W. Honig (Ed.) Operant behavior areas of research and application. New York: Appleton-Century Crofts.

U.S. Department of Labor (1979). Sheltered workshop study. Washington, D.C.: U.S. Department of Labor.

van den Pol, R.A., Iwata, B.A., Ivancic, M.T., Page, T.J., Neef, N.A., & Whitley, F.P. (1981). Teaching the handicapped to eat in public places: Acquisition, generalization, and maintenance of restaurant skills. Journal of Applied Behavior Analysis, 14 (1), 61-69.

Wehman, P., Atkinson, P., Hill, M., Pietruski, W., Shealey, M., & White, J. (1983 November). Vocational education for individuals who experience moderate to severe handicaps. Presentation at the Tenth Annual Conference of the Association for the Severely Handicapped, San Francisco.

Wehman, P. & Hill, J.M. (1979). Vocational training and placement of severely disabled persons. Vol. 1. Richmond, VA: Virginia Commonwealth University.

Wehman, P. & Hill, M. (1980). Vocational training and placement of severely disabled persons, Vol. 2. Richmond, VA: Virginia Commonwealth University.

Wehman, P. & Hill, M. (1982). Vocational training and plaement of severely disabled persons, Vol. 3. Richmond, VA: Virginia Commonwealth University.

Wehman, P., Hill, M., Goodall, P., Cleveland, P., Brooke, V., & Pentecost, J.H. (1982). Job placement and follow-up of moderately and severely handicapped individuals after three years. The Journal of the Association for the Severely Handicapped, 7, 5-15.

Wehman, P. & McLaughlin, P.J. (1980). Vocation curriculum for developmentally disabled persons. Baltimore: University Park Press.

Whitehead, C.W. (1979). Sheltered workshops in the decade ahead: Work and wages, or welfare. In G. T. Bellamy, G. O'Connor, & O. C. Karan (Eds.) Vocational rehabilitation of severely handicapped

persons: Contemporary service strategies (p.p. 71-84). Baltimore: University Park Press.

Wilcox, B. & Bellamy, G.T. (1982). Curriculum content. In B. Wilcox & G. T. Bellamy (Eds.) Design of high school programs for severely handicapped students, (p.p. 23-40). Baltimore: Paul H. Brookes.

Wilcox, B. & Bellamy, G.T. (1982). From school to what?: Transition and adult services. In B. Wilcox & G. T. Bellamy (Eds.) Design of high school programs for severely handicapped students, (p.p. 221-231). Baltimore: Paul H. Brookes.

APPENDIX A

School of Education Human Subjects

Review Committee Proposal and

Parent Consent Form

SUMMARY OF PROPOSED THESIS
OR DISSERTATION RESEARCH

Date November 16, 1984

Name William W. Woolcock Program Special Education

Title of Research Project General Case Simulation Instruction and the Establishment and Maintenance of Work Performance in Severely Handicapped Students

Research Advisor Steven R. Lyon, Ph.D.

Committee Members Scot McConnell, Ph.D.; Naomi Zigmond, Ph.D.; Anne Golin, Ph.D.; and, Phillip Strain, Ph.D.

Date of Overview _____ Time _____ Place _____

---

1. Statement of the problem to be investigated

The present study will assess the extent to which general case simulation instruction on two housekeeping and three janitorial tasks, presented at an adult day program, generalizes to independent subject performance on six housekeeping and six janitorial tasks presented at a community convalescent hospital.

2. Rationale for the proposed study

On the job training of severely handicapped workers requires direct one-to-one instruction and frequent follow-up upon acquisition of job skills. The on the job instruction phase frequently requires an extended amount of time spent in instruction since severely handicapped workers commonly lack the specific job skills required in a competitive job (Wehman & Hill, 1980; Wehman et.al., 1982). This study is an attempt to develop simulation instructional strategies for specific job skills which directly relate to the performance of the janitorial and housekeeping tasks required in competitive jobs at a community convalescent hospital. Through the application of general case instruction principles, job skills may be acquired prior to on the job instruction.

3. Theoretical framework of the proposed study

The frequently cited performance characteristics of severely handicapped individuals, slow skill acquisition, poor skill maintenance, and inability to generalize and synthesize acquired behaviors require that instruction reliably and efficiently result in behaviors that endure over time, and are performed under appropriate conditions and are not performed under inappropriate conditions. Several sources (Bellamy et.al., 1982; Horner et. al., 1983) have suggested that instruction in a simulation environment using stimulus/response variations which sample the range of stimulus/response variations encountered in actual task performance may increase the efficiency and effectiveness of instruction in the actual environment.

4. Educational importance of the proposed study

This study will serve as a model demonstration for future applications of general case simulations of competitive employment skills. The information gained from this study will be of use in the development of classroom strategies for efficiently transitioning severely handicapped individuals from schools and adult centers to competitive work.

5. Major hypotheses to be tested or questions to be answered

Three research questions are to be addressed by this study: (1) Does worker competence on job skill activities presented in simulation result in improved performance of those tasks at an actual job site?; (2) Does worker competence on simulation job skill activities facilitate a high level of independent performance during actual job skill instruction?; and, (3) Does this combined simulation and actual job skill instruction facilitate efficient withdrawal of instructor intervention and supervision?

6. Methods and/or techniques for carrying out the proposed study

The study will utilize a single subject, multiple baseline across subjects and behaviors design. The experimental phases to be included in this design are: (1) Baseline; (2) Simulation Instruction; (3) Actual Job Probe; (4) Actual Job Instruction; and, (5) a three component Instructor Withdrawal phase. This design will permit the assessment of each of four workers' performance on food service and three janitorial tasks across all experimental phases.

7. Feasibility of the proposed study in terms of time required and resources needed to complete the study

The study is funded by a student initiated grant provided by the U.S. Office of Special Education and Rehabilitative Services. This funding permits the hiring of three instructor/data collectors as well as the procurement of necessary data collection materials. Simulation instruction will take place at the Training Alternatives Center and Workshop, McKeesport, PA and actual job instruction will occur at John J. Kane Regional Hospital, McKeesport, PA. It is anticipated that the study will be conducted from January, 1985 to March, 1985.

8. Your background, experience, and training that gives you the necessary competencies to carry out the proposed study and interpret the results and/or plans to develop necessary competencies

The principal investigator, William W. Woolcock M.Ed., has approximately eight years of experience working with severely handicapped adults in a variety of roles. Currently, Mr. Woolcock is pursuing a Ph.D. in Special Education under the direction of Dr. Steven Lyon. In this capacity he has conducted two single subject research studies and is presently preparing three additional single subject studies.

9. Source and availability of the data for the proposed study. (If human subjects are involved, check here /X/ and also complete the items 10 through 18 on pages 3 and 4.)

Information for Research Involving Human Subjects[1]

96

10. Duration of Study: 2 to 4 months

11. Number of Subjects: 4

12. Do the subjects have any condition that would necessitate their classification as handicapped, exceptional, mentally ill, or possessing some psychopathological or medical disorder? X Yes _____ No
If yes, describe subjects to be used in the research.

Two secondary are (ages 16 to 21) severely/moderately mentally retarded students and two post secondary are (ages 21 to 24) severely/moderately mentally retarded adults will participate in the study.

13. Are children under 18 years of age involved? X Yes _____ No

14. Are there any deceptive elements to this study? _____ Yes X No
If yes, describe the deception and any specific debriefing procedures to be used.

15. Do you think this proposal qualifies for exemption from full IRB review?

X Yes _____ No
If yes, indicate why you think it is exempt. Please refer to the attached definition (in green) of research exempt from full Psychosocial IRB review.
Research conducted in established or commonly accepted educational settings, research on special education instructional strategies. The instruction at Kane Hospital may be considered a cooperative job placement consistent with established educational placement.
If no, indicate when you will submit a complete protocol to a University of Pittsburgh Institutional Review Board.

16. Is this proposal being submitted to other human subjects review committees?
_____ Yes X No

Name of Committee	Action (approved, rejected, or in process)

If another committee has or will take action on this proposal, a copy of the document indicating such action must be submitted to the committee. Place an asterisk above beside the name of any committee for which such a document is enclosed.

[1] If additional space is needed to answer any item, you may attach additional material.

17. Have you attached a copy of all consent forms, questionnaires, surveys, tests, or other measurement procedures used? ____Yes __X__No
If no, explain what is missing and why.

Parental consent form currently in preparation. Will include consent form and sample data sheet when proposal is submitted to the exempt review committee

18. Student and Research Advisor

In my opinion, the procedures proposed for this study meet generally accepted principles for the conduct of research involving human subjects.

( ) YES ( ) NO

William W. Woolard
Signature of Student

Date

(X) YES ( ) NO

Signature of Research Advisor

Date

19. School of Education Human Subjects Review Committee for exempt review.[1]

The School of Education Human Subjects Review Committee has reviewed the proposed research and has reached the following decision.

_____Exempt from further IRB review. Researcher may proceed with the proposed research.

_____Not exempt from further IRB review. Researcher must prepare a complete protocol and submit it to a University of Pittsburgh Institutional Review Board.

_____
Human Subjects Committee Chairperson

_____
Date

[1]A copy of this signed form is sent to the student and to OSPS.

University of Pittsburgh

SCHOOL OF EDUCATION
Department of Special Education

CONSENT TO PARTICIPATE IN AN EXPERIMENTAL STUDY

Dear Parents/Guardians,

The purpose of this form is to obtain your permission for _____, to participate in an educational research project that I have proposed as partial fulfillment of my Doctor of Philosophy Degree at the University of Pittsburgh, Pittsburgh, Pennsylvania.

This study will be conducted at the Training Alternatives Center and Workshop, Mon-Yough MH/MR Services Inc., McKeesport, PA and at John J. Kane Regional Hospital, McKeesport, PA. Your child/client will not be a participant in this research without your written approval.

Please carefully read the attached information, indicate your approval in the space provided, and return one signed copy of this form to me in the envelope provided. The second copy of the form is for you to keep. If you wish to discuss any aspect of this information, please contact me at (412) 624-6868 between 8:30 A.M. and 5:00 P.M.

Sincerely,

William W. Woolcock
University of Pittsburgh

Steven R. Lyon, Ph.D., Assistant Professor
University of Pittsburgh

5M01 FORBES QUADRANGLE 230 S BOUQUET STREET, PITTSBURGH PA 15260

TITLE: General Case Simulation Instruction and the Establishment and Maintenance of Work Performance in Severely Handicapped Students.

DESCRIPTION: The purpose of this study is to determine whether individual instruction on housekeeping and janitorial skills in a simulation environment, the Training Alternatives Center and Workshop, McKeesport, PA results in high levels of independent performance on janitorial and housekeeping tasks at Kane Regional Hospital, McKeesport, PA. Specifically, we will be looking at how the teaching of specific job skills (Damp wiping, Floor mopping) in simulation improves the performance of those skills at an actual job site. A group of four severely handicapped persons, two adults and two high school students will participate in this study for approximately 12 weeks. The study sessions will take place daily for two, two hour sessions. Participation in this study is in keeping with the vocational objectives established for your child/ client.

RISKS AND BENEFITS: The safe performance of housekeeping and janitorial tasks is a major consideration in this study. Participants will learn the proper placement of caution signs when mopping floors and the proper positioning of the equipment cleaned during housekeeping tasks. These considerations will minimize the risks of slipping on wet floors or physical strain from poorly positioned equipment. Additionally, the cleaning solutions to be used in this study are not hazzardous unless taken by mouth. During all phases of the study a qualified instructor will immediately be available to each participant.

The major benefit of this study is the learning of specific job skills needed at Kane Regional Hospital and a variety of jobs in hospitals, hotels, schools etc. The ability to perform these skills will improve your child's/client's chances of getting a job when he/ she leaves high school or the adult center.

NEW INFORMATION: When the study is completed we will be able to document methods that teachers and adult center staff can use in teaching specific job skills that result in competitive job performance. This information will help professionals to develop classroom strategies for job skill training. You will be entitled to any information gained through this study.

COSTS AND PAYMENTS: There is no cost for participating in the study. You will be provided with a list of the clothes to be worn by participants, this should not require the buying of additional clothing.

CONFIDENTIALITY: A brief description, which will include the age, sex, and general functioning level of your child/client will be reported in the results of this study. Your child's/client's identity will not be revealed in any description or publication of this research.

RIGHT TO WITHDRAW: You are free to withdraw your child/client from the study at any time. Such a decision will in no way affect the services your child/client receives at school or adult center. Also, if the child/client states that he/she wishes to not participate in the activities in the study, participation will be discontinued for that day.

COMPENSATION FOR ILLNESS OR INJURY: In the event of physical injury or illness resulting from the research procedures, no monetary compensation will be made, but any emergency medical treatment which may be necessary will be made available to the child/client without charge.

****

VOLUNTARY CONSENT: I certify that I have read the preceding or it has been read to me, and that I understand its contents. Any questions I have pertaining to the research have been and will be answered by William Woolcock. A copy of this consent form will be given to me. My signature below means that I have freely agreed to allow my child/client,_____, to participate in this experimental study.

_____ _____

Date Parent/Guardian

_____

Witness

INVESTIGATOR'S CERTIFICATION: I certify that I have explained to the above individual the nature and purpose, the potential benefits, and possible risks associated with participating in this research study, have answered any questions that have been raised, and have witnessed the above signature.

Signature of Investigator:_____

Date:_____

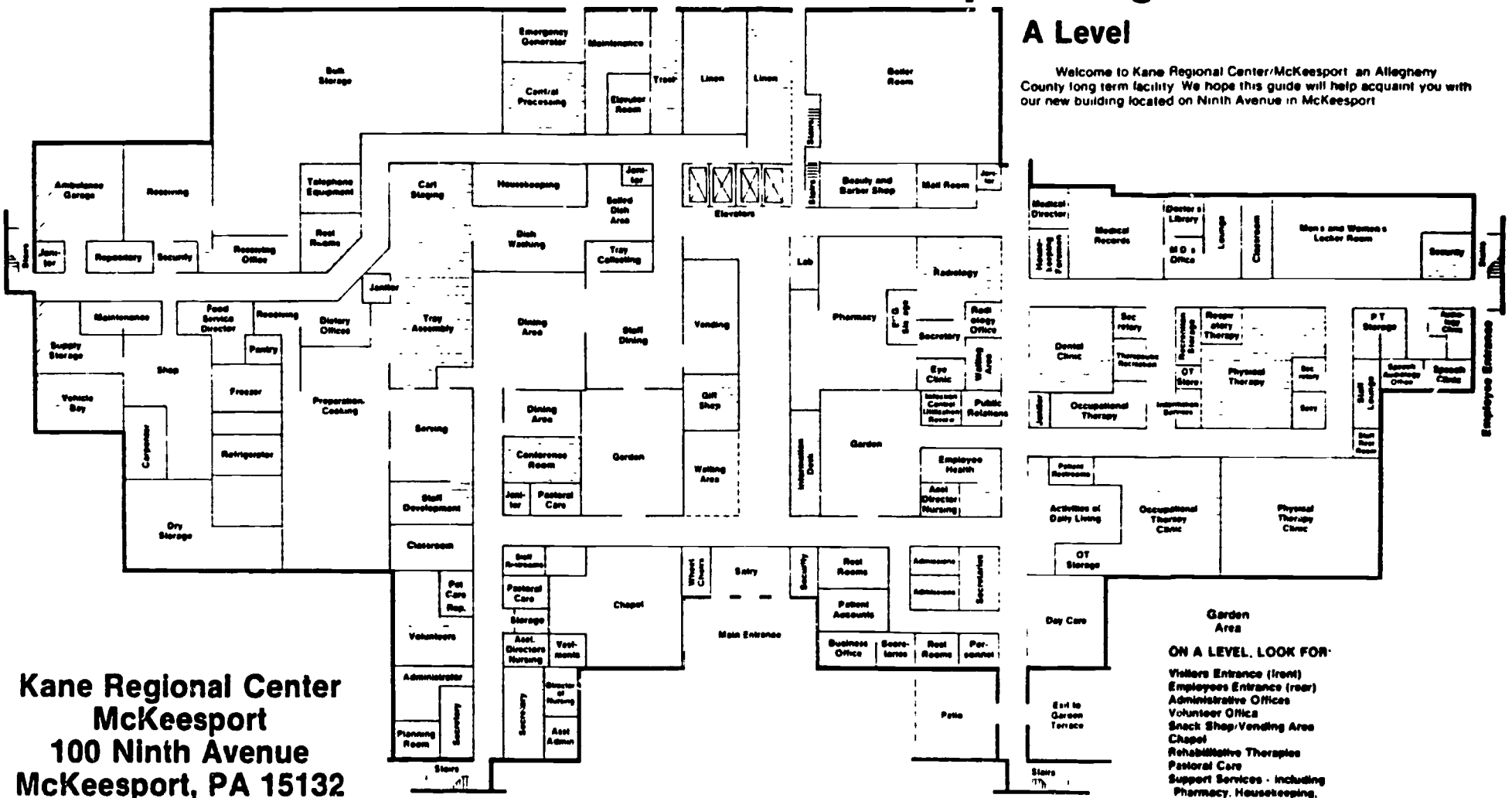
APPENDIX B

Kane Regional Center Floor Plans

Your Guide To...
McKeesport Regional Center

A Level

Welcome to Kane Regional Center/McKeesport an Allegheny County long term facility We hope this guide will help acquaint you with our new building located on Ninth Avenue in McKeesport



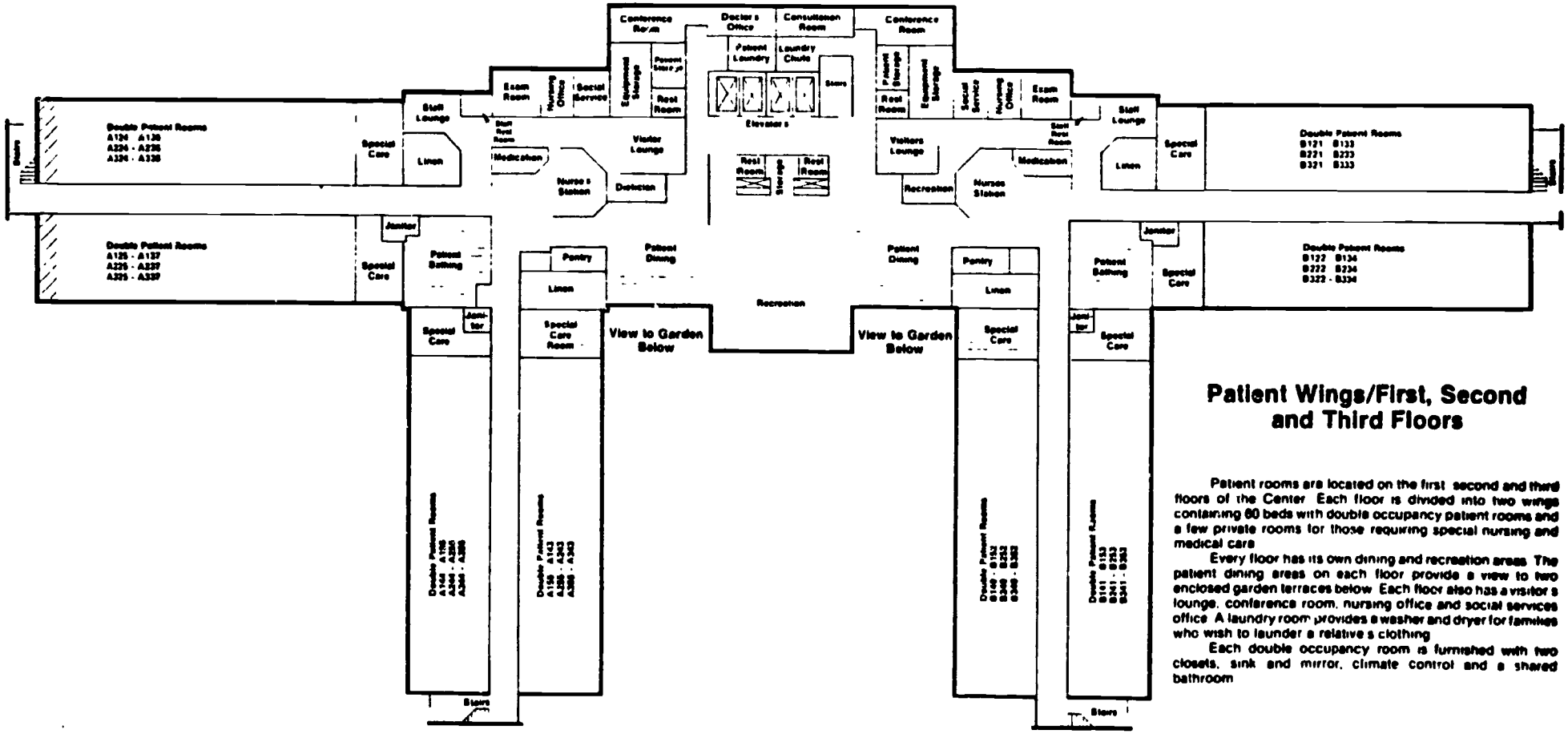
Garden Area

ON A LEVEL, LOOK FOR:

- Visitors Entrance (front)
- Employees Entrance (rear)
- Administrative Offices
- Volunteer Office
- Snack Shop/Vending Area
- Chapel
- Rehabilitative Therapies
- Pastoral Care
- Support Services - including Pharmacy, Housekeeping, Materials Management and Dietary
- Employee Dining Room
- Clinics & Radiology
- Security
- Barber/Beauty Shop
- Two Enclosed Garden Terraces

Kane Regional Center
McKeesport
100 Ninth Avenue
McKeesport, PA 15132
(412) 675-8600

Kane Regional Center McKeesport
First, Second and Third Floors



Patient Wings/First, Second and Third Floors

Patient rooms are located on the first second and third floors of the Center Each floor is divided into two wings containing 60 beds with double occupancy patient rooms and a few private rooms for those requiring special nursing and medical care

Every floor has its own dining and recreation areas The patient dining areas on each floor provide a view to two enclosed garden terraces below Each floor also has a visitor's lounge, conference room, nursing office and social services office A laundry room provides a washer and dryer for families who wish to launder a relative's clothing

Each double occupancy room is furnished with two closets, sink and mirror, climate control and a shared bathroom

APPENDIX C

John J. Kane Hospital Housekeeping Department

Orientation Manual Procedures and

Task Sequence Validation Instruments

POLICIES AND PROCEDURES

SUBJECT	Procedure Number
ROUTINE CARE OF TOILET ROOMS	Effective Date May 19, 1981
SECTION	Page No. 1 of 1
HOUSKEEPING PROCEDURE MANUAL	Rev. Date

PURPOSE: To maintain cleanliness, control bacteria and odor, and maintain acceptable aesthetic conditions.

EQUIPMENT:
Housekeeping Cart (fully equipped)
Caddy
Clean cloth
Bowl brush
Spot remover spray bottle

PRODUCT RECOMMENDED:
Bowl Cleaner
Germicidal detergent
Chlorinated cleanser
Toilet tissue and paper towels
Hand soap

PERSON/DEPARTMENT	ACTION
HOUSEKEEPER	1. Refill paper dispensers. Toilet tissue and paper towels.
	2. Flush toilet before cleaning.
	3. Apply approx. 1 capful of bowl cleaner onto side surface of bowl. Allow to remain for a couple of minutes. Scrub with bowl brush to complete removal of any soil remaining in the bowl. Make sure to scrub under the flushing rim and around inner sides where any stains or deposit may exist.
	4. Drain and flush surfaces. Using a cloth rinsed in germicidal solution and a clean dry cloth.
	5. Damp wipe and dry top of seat, underside of seat and underside of bowl fixture.
	6. Damp wipe and dry piping fixtures.
	7. Damp wipe and dry wall surfaces of toilet stalls and doors. Include all tissue dispensers. On stubborn spots, spray on some extra solution.
	8. Dust ,op and damp mop the floor. See Task Procedures: #29, "Cleaning Floors with a Dust Mop", #31, "Damp Mopping Floors".
	9. INspect work. Report any faulty plumbing.

POLICIES AND PROCEDURES

SUBJECT	Procedure Number
BRASS OR ALUMINUM	Effective Date May 19, 1981
SECTION	Page No. 1 of 1
HOUSEKEEPING PROCEDURE MANUAL	Rev. Date

PURPOSE: To maintain cleanliness and acceptable aesthetic condition.

EQUIPMENT: Clean cloths

PRODUCT RECOMMENDATION: Metal cleaner and polish

PERSON/DEPARTMENT	ACTION
HOUSEKEEPER	1. Spray metal cleaner onto surface (if working on a large area divide it into smaller sections to clean.)
	2. Rub surface with clean dry cloth. Make sure all polish is picked up and surface is shiny. If a spot is extremely dirty, you may have to respray and rub.

JOHNJKoneHOSPITAL

POLICIES AND PROCEDURES

SUBJECT	Procedure Number
CLEANING PATIENT ROOM - OCCUPIED	Effective Date May 19, 1981
SECTION	Page No. 1 of 2
HOUSEKEEPING PROCEDURE MANUAL	Rev. Date

PURPOSE: To improve sanitation of the environment, aid prevention of cross-contamination and maintain acceptable aesthetic condition.

EQUIPMENT:
Housekeeping Cart (fully equipped)
26 qt. bucket and wringer
10 qt. bucket
16 oz. wet mop
Dust pan and pick-up bruch
Caddy
Cleaning cloths
Bowl brush
White scouring pads

PRODUCT RECOMMENDATIONS:
Quaternary germicidal detergent
Cleanser
Furniture polish
Metal cleaner and polish
Disinfectant bowl cleaner
Glass cleaner (if needed)

PERSON/DEPARTMENT	ACTION
HOUSEKEEPER	1. Fill the 26 qt. bucket 2/3 full with warm water and add germicide/disinfectant according to use dilution ratio.
	2. Fill 10 qt. bucker 2/3 full with clear warm water. This will be used as rinse water.
	3. Take equipment and position it outside the area to be cleaned. Make sure that the cart is close to the wall and does not block the corridor where someone may trip over it.

JOHN DOE HOSPITAL

POLICIES AND PROCEDURES

SUBJECT	Procedure Number
CLEANING PATIENT ROOM - OCCUPIED	Effective Date May 19, 1981
SECTION	Page No. 2 of 2
HOUSEKEEPING PROCEDURE MANUAL	Rev. Date

PERSON/DEPARTMENT	ACTION
HOUSEKEEPER	4. Enter room. If the door is closed, knock gently, enter, and greet the patient pleasantly. (In damp wiping articles and furniture, first spray on some germicide from the spray bottle, then using a cloth dampened in clear water, wash surface. Rinse cloth when soiled.
	5. Empty, damp wipe and dry dirty ash trays. Use a foled cloth to damp wipe and dry - as one surface becomes soiled, refold to make use of all surfaces.
	6. Empty waste basket; dampt wipe and dry outside surface; reline when needed.
	7. Damp wipe and dry bedside stand, over bed table, dresser, chairs, etc. Whe cleaning any furniture, lift up any of the patients' articles and clean under them. Replace them when finished cleaning. If any furniture has been moved, replace to original position.
	8. Damp wipe and dry headboard, footboard and side rails of bed. Include call button and cord. This would be done only if patient does not object.
	9. Damp wipe and dry windows, window sills, radiator, fixtures, etc.
	10. Spot clean walls.
	11. Clean bathroom. (See Task Procedures #52, "Sinks and Lavatories" #53, "Routine Care of Toilet Rooms")
	12. Dust mop and damp mop floor.
	13. Make final check to see if room has been left in order.

POLICIES AND PROCEDURES

SUBJECT	Procedure Number
TERMINAL CLEANING OF PATIENT ROOM	Effective Date May 19, 1981
SECTION	Page No. 1 of 3
HOUSEKEEPING PROCEDURE MANUAL	Rev. Date

PURPOSE: To maintain an aseptic environment and prevent cross-contamination with the health center.

EQUIPMENT:
Housekeeping Cart (fully equipped)
26 qt. bucket and wringer
10 qt. bucket
16 oz. wet mop
Treated dust mop
Dust pan and pick-up brush
Caddy
Cleaning cloths
Bowl brush
White scouring pads

PRODUCE RECOMMENDATIONS:
Quaternary germicidal detergent
Cleanser
Furniture polish
Metal cleaner and polish
Disinfectant bowl cleaner
Glass cleaner (if needed)

PERSON/DEPARTMENT	ACTION
HOUSEKEEPER	1. Fill the 26 qt. bucket 2/3 full with warm water and add germicide/disinfectant according to use dilution ratio.
	2. Fill 10 qt. bucket 2/3 full with clear warm water. This will be used as rinse water.
	3. Take the equipment and position it outside the area to be cleaned. Make sure that the cart is close to the wall and does not block the corridor where someone may trip over it.
	4. Enter room.

JOHN L. KANE HOSPITAL

POLICIES AND PROCEDURES

SUBJECT	Procedure Number
TERMINAL CLEANING OF PATIENT ROOM	Effective Date May 19, 1981
SECTION	Page No. 2 of 3
HOUSEKEEPING PROCEDURE MANUAL	Rev. Date

PERSON/DEPARTMENT	ACTION
HOUSEKEEPER	5. Check for personal articles left by the patient. Return any found articles to the nurses. (Exception: Discard a toothbrush which has been left behind.) Remove papers, magazines, flowers, etc. In damp wiping articles or furniture, first spray on some germicide from the spray bottle then using a cloth dampened in clear water wash surface. Rinse cloth when soiled.
	6. Empty, damp wipe and dry ash trays.
	7. Empty, damp wipe and dry waste basket; reline.
	8. Wash bed down thoroughly (include over bed light fixture, call button and cor.) (See Task Procedure #9, "Terminal Cleaning of Patient Beds")
	9. Wash the bedside stand, over bed table and the dresser inside and outside. Remove articles left in drawers damp wipe and dry all surfaces of drawers, shelves, hinges and recessed areas. Leave drawers open and go on to next step. Remember to use the spray bottle when damp wiping.
	10. Damp wipe and dry other furniture such as chairs, lamps, e
	11. Damp wipe and dry patient's clothes closet.
	12. Dampe wipe and dry windows, window sills, radiators.
	13. Close drawers on furniture.
	14. Clean the bathroom. (See Task Procedures #52, "Sinks and Lavatories", #53, "Routine Care of Toilet Room")

JOHN KOUNTZ HOSPITAL

POLICIES AND PROCEDURES

SUBJECT	Procedure Number
TERMINAL CLEANING OF PATIENT ROOM	
	Effective Date May 19, 1981
SECTION	Page No. 3 of 3
HOUSEKEEPING PROCEDURE MANUAL	Rev. Date

PERSON/DEPARTMENT	ACTION
HOUSEKEEPER	15. Spot-clean the soiled areas on walls and doors. Pay extra attention to areas around light switches, door knobs, and other places touched by patient. Notify supervisor if wall needs a complete washing.
	16. Dust mop and wet mop floors.
	17. Check your work, make sure furniture is left straightened.

POLICIES AND PROCEDURES

SUBJECT	Procedure Number
DRINKING FOUNTAINS	
	Effective Date: May 19, 1981
SECTION	Page No. 1 of 1
HOUSEKEEPING PROCEDURE MANUAL	
	Rev. Date

PURPOSE: To remove soil and deposits, prevent bacterial development, and maintain an acceptable aesthetic condition.

EQUIPMENT:
10 qt. plastic bucket
Clean cloths
Small brush

PRODUCT RECOMMENDED:
Germicidal detergent
Stainless steel cleaner

PERSON/DEPARTMENT	ACTION
HOUSEKEEPER	1. Fill 10 qt. plastic bucket with 2 gallons warm water, add germicidal disinfectant according to use dilution ratio.
	2. Using clean cloth wrung out in germicidal solution, scrub thoroughly and carefully all surfaces. Pay special attention to fountain jet, protective guard, and drain. A small brush can be used to clean these areas.
	3. Wash outside of drinking fountain.
	4. Rinse all parts of the unit with clear water.
	5. Dry the fountain starting at the top with the stainless steel bowl and work to the base.
	6. Apply stainless steel cleaner to stainless steel portions of the fountain.
	7. Wipe up any splashes of solution or water from the walls and floor.
	8.. Inspect work.

JOHN J. Kane HOSPITAL

POLICIES AND PROCEDURES

SUBJECT	Procedure Number
WHEEL CHAIRS	
	Effective Date May 19, 1981
SECTION	Page No. 1 of 1
HOUSEKEEPING PROCEDURE MANUAL	Rev. Date

PURPOSE: To maintain the cleanliness of patient transporting equipment and insure good service.

EQUIPMENT:
10 qt. bucket
Clean cloths
Small brush
Green and white handpads

PRODUCT RECOMMENDATION:
Quaternary germicidal detergent
Stainless steel cleaner

PERSON/DEPARTMENT	ACTION
HOUSEKEEPER	1. Fill bucket 2/3 full with warm water, add germicidal detergent. Report any condition needing repair.
	2. Use small brush to remove loose dust or soil from all areas of wheel chair.
	3. Using a clean damp cloth, wipe down thoroughly all accessible exposed surfaces. Include wheels, spokes, hub, springs, and frame. Make sure to get into small spaces where dust collects. May need to use a scouring pa to remove built on grime.
	4. Dry all surfaces with clean cloth.
	5. Apply stainless steel cleaner to all exposed stainless steel areas.
	6. Clean up surrounding floor area.
	7. Inspect work.

JOHN J. KANE HOSPITAL

POLICIES AND PROCEDURES

SUBJECT	Procedure Number
CLEANING PLASTIC FURNITURE	
	Effective Date May 19, 1981
SECTION	Page No.
HOUSEKEEPING PROCEDURE MANUAL	
	Rev. Date

PURPOSE: To maintain cleanliness, improve appearance, and protect the finish.

EQUIPMENT:
10 qt. bucket
Clean cloths
Nylon brush

PRODUCT RECOMMENDATION: Quaternary germicidal detergent

PERSON/DEPARTMENT	ACTION
HOUSEKEEPER	1. Fill 10 qt. bucket 2/3 full with warm water, add germicidal disinfectant according to use dilution ratio.
	2. Using clean cloth, damp wipe all surfaces of furniture. If surface is textured, use a nylon brush to clean it.
	3. Damp wipe and dry the framework and legs of the furniture.
	4. If furniture had been moved, return to proper position.

POLICIES AND PROCEDURES

SUBJECT	Procedure Number
SINKS AND LAVATORIES	Effective Date May 19, 1981
SECTION	Page No. 1 of 1
HOUSEKEEPING PROCEDURE MANUAL	Rev. Date

PURPOSE: To maintain cleanliness, control bacteria and oder, and maintain acceptable aesthetic conditions.

EQUIPMENT:
Housekeeping Cart (fully equipped)
10 qt. bucket
Clean cloths
Spot remover spray bottle

PRODUCT RECOMMENDATION:
Quaternary germicidal detergent
Cholrinated cleanser (on occasion)

PERSON/DEPARTMENT	ACTION
HOUSEKEEPER	1. Damp wipe the morror, paper towel dispenser, window sills, cabinet. When more than one lavatory is involved, the procedure outlined should be followed at the same time for each sink rather than starting the procedure on one sink a completing it before going on to the next sink. Inspect mirror to make sure it isn't streaked. (If it happens to streaked, rinse your cloth and wipe over it again. Dry.)
	2. Dry with clean cloth.
	3. Clear the sink of bars of soap and any other articles.
	4. Drain and flush surfaces thoroughly with clear water to remove soil residue.
	5. Spray some germicidal solution into sinks. With a damp clo clean all metal surfaces including faucets, valves, stopper soap dishes. Clean all porclean surfaces (inside and outsi of sinks.)
	6. Clean overflow vent with a folded cloth.

POLICIES AND PROCEDURES

SUBJECT	Procedure Number
SINKS AND LAVATORIES	Effective Date May 19, 1981
SECTION	Page No. 2 of 2
HOUSEKEEPING PROCEDURE MANUAL	Rev. Date

PERSON/DEPARTMENT	ACTION
HOUSEKEEPER	7. Rinse a cloth in running warm water and go over all clean surfaces.
	8. With clean cloth was wall surfaces near sink, likely to have been soiled through the use of lavatories.
	9. Damp wipe plumbing pipes and porcelain with a clean dry cloth, beneath the sink.
	10. Dry and polish all metal and porcelain with a clean dry cloth.
	11. Inspect work. Clean surfaces and essential for health and aesthetic reasons.
	12. Report any clogged drains or leaking faucets.

JOHN J. KANE HOSPITAL

POLICIES AND PROCEDURES

SUBJECT	Procedure Number
PLASTIC VINYL COVERED FURNITURE	Effective Date May 19, 1981
SECTION	Page No.
HOUSEKEEPING PROCEDURE MANUAL	Rev. Date

PURPOSE: To maintain an aseptic and aesthetic environment.

EQUIPMENT:
10 qt. bucket
Clean cloths
Nylon brush

PRODUCT RECOMMENDATION: Quaternary germicidal detergent

PERSON/DEPARTMENT	ACTION
HOUSEKEEPER	1. Fill 10 qt. bucket 2/3 full with warm water, add germicidal disinfectant according to use dilution ratio.
	2. Damp dust furniture.
	3. Then wet a cloth in germicidal solution and rub it firmly on the furniture to loosen soil. Use a nylon brush if needed to get around welting or if the furniture has some texture to it.
	4. Rinse and wring out cloth and go over surface again.
	5. Rub surface dry with a clean cloth to polish upholstery.

JOHN J. KANE HOSPITAL

POLICIES AND PROCEDURES

SUBJECT	Procedure Number
LAB COUNTERS, CHELVES, AND STORAGE CABINETS	Effective Date May 19, 1981
SECTION	Page No.
HOUSEKEEPING PROCEDURE MANUAL	Rev. Date

PURPOSE: To remove dust, soil or other contaminants, and maintain acceptable aesthetic conditions.

equipment: 10 qt. bucket
Clean cloths

PRODUCT RECOMMENDATION: Quaternary germicidal detergent

PERSON/DEPARTMENT	ACTION
HOUSEKEEPER	1. Fill 10 qt. bucket 2/3 full warm water, add germic idal disinfectant according to use dilution ratio.
	2. Remove all items from shelves and counters carefully (or move over to one side).
	3. Damp wipe all exposed surfaces including docrs, tracks, hinges, and shelves under counter.
	4. Dry all surfaces with clean cloth.
	5. Return all items to proper place.
	6. Inspect work.

JOHN L. LaMe HOSPITAL

POLICIES AND PROCEDURES

SUBJECT	Procedure Number
TERMINAL CLEANING OF PATIENT BEDS	Effective Date May 19, 1981
SECTION	Page No. 1 of 2
HOUSEKEEPING PROCEDURE MANUAL	Rev. Date

PURPOSE: To maintain an aseptic condition of patient beds.

EQUIPMENT: 10 qt. bucket
Clean cloths
White scouring pad

PRODUCT RECOMMENDATIONS: Quatenary germicidal detergent

PERSON/DEPARTMENT	ACTION
HOUSEKEEPER	1. Raise the bed to c comfortable working height. Nurses's aides should remove all bed linens before nvironmental Service workers clean the bed. Pillow should be put aside to air.
	2. Push the bed away from the wall.
	3. Damp wipe the top and sides of the mattress (make sure to get around the welting).
	4. Roll top of bed up. Starting with the headboard damp wipe and dry the back, front and sides including the legs. Do not wipe off the wheels at this time. They will be the last part you clean.
	5. Damp wipe and dry call button and cord; telephone and T.V. cors; and light fixture.
	6. Push upper half of mattress down to expose springs; damp wipe and dry the springs. Put mattress back down.
	7. Damp wipe and dry all exposed surface of the underside and sides of the upper portion of the bed. Be sure to clean the undersides of the springs. Be sure to clean in corners and between bars.

JOHN KNOX HOSPITAL

POLICIES AND PROCEDURES

SUBJECT	Procedure Number
TERMINAL CLEANING OF PATIENT BEDS	Effective Date May 19, 1981
SECTION	Page No. 2 of 2
HOUSEKEEPING PROCEDURE MANUA	Rev. Date

PERSON/DEPARTMENT	ACTION
HOUSEKEEPER	8. Damp wipe and dry the side rail..
	9. Go to the other side of the bed and complete damp wiping and drying underside of bed. Damp wipe and dry side rail.
	10. Roll down top portion of bed and roll up lower half.
	11. Lift mattress. Damp wipe and dry the springs.
	12. Raise springs. Damp wipe and dry underside of springs and all exposed surfaces.
	13. Put spring and mattress down. Damp wipe and dry the front and back of the foot board, include the legs. Be sure to clean all handles and knobs.
	14. Wipe off the wheels. Make sure to pull off any dust or hair which may be stuck to the wheels.
	15. Lower bottom half of bed.
	16. Lower bed completely.
	17. Inspect work.

JOHN J. KANE HOSPITAL

POLICIES AND PROCEDURES

SUBJECT	Procedure Number
STAINLESS STEEL	
	Effective Date May 19, 1981
SECTION	Page No. 1 of 1
HOUSEKEEPING PROCEDURE MANUAL	Rev. Date

PURPOSE: To remove soil and deposits and maintain an acceptable aesthetic condition.

EQUIPMENT: 10 qt. bucket
Clean cloths

PRODUCT RECOMMENDATION: Quaternary germicidal detergent
Metal polish or cleaner

PERSON/DEPARTMENT	ACTION
HOUSEKEEPER	1. Fill 10 qt. bucket 2/3 full with warm water, add germicidal disinfectant according to use dilution ratio.
	2. Damp wipe and dry stainless steel surface. If metal cleaner won't be used, make sure to dry surface completely so it won't spot.
	3. Apply metal cleaner or polish onto surface. Buff with a dry soft cloth. Back and forth or circular strokes may be used.
	4. Inspect work to make sure there are no spots or streaks left.

POLICIES AND PROCEDURES

SUBJECT	Procedure Number
WET MOPPING (QUARRY TILE FLOORS)	Effective Date May 19, 1981
SECTION	Page No. 1 of 2
HOUSEKEEPING PROCEDURE MANUAL	Rev. Date

PURPOSE: To improve sanitation of the environment, aid bacterial control and maintain acceptable aesthetic conditions.

EQUIPMENT:
Two 26 qt. buckets with two wringers
Two 32 oz. mops
One coving brush
Dust mop
Dust pan and pick-up brush

PRODUCT RECOMMENDATION: Quaternary germicidal detergent

PERSON/DEPARTMENT	ACTION
HOUSEKEEPER	1. Fill one bucket 2/3 full with warm water, add germicide/ disenfectant according to use dilution ratio. Fill second bucket 2/3 full with clear warm water. Use one clean mop with detergent solution and second clean mop with rinse water. Change wash and rinse water often before it gets very dirty. When changing water, rinse out buckets before adding clean water. Also, rinse mops out with clean water.
	2. Move furniture to clear as muchspace as practical. Place out caution signs if the area requires it.
	3. Dust mop floor lightly before mopping. (See Task Procedur #29, "Cleaning Floors with a Dust Mop")
	4. To start wet mopping, dip the mop into the solution bucket and wring out slightly.
	5. Start at far end of area. Wet mop along the coving or baseboard first.
	6. Mop all corners using the heel of the mop. On floor surfaces which are heavily soiled, a coving brush should be used. Mop should not be forced into corners or baseboards so as to prevent soil and solution from accumulating in these areas.
	7. Wet mop floor starting at the far end of the room. When mopping use the "S" stroke - swinging the mop from side to side. Do not roll the mop at the end of each stroke.

JOHN KNOX HOSPITAL

POLICIES AND PROCEDURES

SUBJECT	Procedure Number
WET MOPPING (QUARRY TILE FLOORS)	Effective Date May 19, 1981
SECTION	Page No. 2 of 2
HOUSEKEEPING PROCEDURE MANUAL	Rev. Date

PERSON/DEPARTMENT	ACTION
HOUSEKEEPER	Allow solution to remian while putting down detergent on additional part of area. This is important so that solution has an opportunity to loosen and float any soil present for maximum soil removal. Avoid splashing solution up onto baseboads and walls. Avoid striking the mop against walls and furniture to prevent splatter. Avoi push-pull stroke except in restricted places where a scrubbing action is needed. When one side of mop becomes soiled turn the mop overto the other side.
	8. Complete the area; then place the solution mop into the solution. Take the rinse mop and wring out all excess water.
	9. Run rinse mop along baseboard and then starting at far end using "S" stroke pick up the detergent solution.
	10. Return furniture to proper place. Make sure all water has been picked up so as to prevent someones' slipping and falling on it.
	11. Inspect area to be certain that the floor is properly cleaned and that the area is in order.
	12. At the end of the use period, wash and rinse all equipment used (bucket, dolly, mops). Equipment should be free from dirt and spots before putting it away. Drain and stc

Mrs Laurie Gordon

University of Pittsburgh

SCHOOL OF EDUCATION
Department of Special Education

January 23, 1985

Dear Housekeepers and Janitors,

We are planning to do a study at Kane Regional Center, McKeesport teaching mentally retarded students to damp wipe the furniture and fixtures in patient rooms (housekeeping tasks) and to mop the floors in rooms and areas on the ground floor of Kane Regional. We would like to have two housekeepers and two janitors tell us whether the actions to be taught to our students are like the actions used by housekeepers and janitors at Kane Regional.

Please fill out the forms we've provided by circling the number which describes whether each action on the form is "very much like" or "very different" from the way you would do it. You may also help us by telling us how you would do the actions in the space provided for comments. Thank you for helping us develop our study.

Sincerely,

Woody Woolcock

Woody Woolcock

Steven R. Lyon
Department of Special Education
5M22 Forbes Quadrangle
University of Pittsburgh
Pittsburgh, PA 15260

WW:aa

5M01 FORBES QUADRANGLE, 230 S. BOUQUET STREET, PITTSBURGH, PA 15260

Housekeeping Tasks

Task: Cleaning sinks and lavatories

	Actions	Very different					Very much like	Comments
1.	Fill 10 qt. bucket 2/3 with warm water	0	1	2	3	4	(5)	1.
2.	Add a small pack of A-33	0	1	2	3	4	(5)	2.
3.	Take housekeeping cart to patient room, get 2 clean cloths	0	1	2	3	4	(5)	3.
4.	Add about 1/2 cup of sani-flush to toilet	0	1	2	3	4	(5)	4.
5.	Move small items (brushes etc.) off shelves - place on floor	(0)	1	2	3	4	5	5. Do not place items on Floor, put items on bed
6.	Wipe all fixtures, plumbing, dispensers, shelves with damp cloth (from bucket)	0	1	2	3	4	(5)	6.
7.	Spray all purpose polish on chrome and stainless steel	0	1	2	3	4	(5)	7.
8.	Wipe chrome and stainless steel with a dry cloth, no streaks	0	1	2	3	4	(5)	8.
9.	Swish toilet brush in toilet and under rim-flush	0	1	2	3	4	(5)	9.
10.	Inspect work-look over all parts-spot wipe/ polish	0	1	2	3	4	(5)	10.
11.	Return bucket and cart to the storeroom and empty bucket (if you are finished with all rooms)	0	1	2	3	4	(5)	11.

Task: Cleaning a wheelchair

	Actions	Very different				Very much like	Comments
1.	Fill 10 qt. bucket 2/3 with warm water	0	1	2	3	4 (5)	1.
2.	Add a small pack of A-33	0	1	2	3	4 (5)	2.
3.	Take housekeeping cart to patient room, get a clean cloth	0	1	2	3	4 (5)	3.
4.	Move the wheelchair away from walls and furniture	0	1	2	3	4 (5)	4.
5.	Wipe the wheelchair with damp cloth from top to bottom	0	1	2	3	4 (5)	5.
6.	Inspect work-look over all parts-spot wipe	0	1	2	3	4 (5)	6.
7.	Move the wheelchair to it's original location	0	1	2	3	4 (5)	7.
8.	Return bucket and cart to the storeroom and empty bucket (if you are finished with all rooms)	0	1	2	3	4 (5)	8.
9.	If wheelchair is broken or missing a part-tell the nursing supervisor	0	1	2	3	4 (5)	9.

Housekeeping Tasks

Task: Cleaning chair, stand, tray table

	Actions	Very different					Very much like		Comments
1.	Fill 10 qt., bucket 2/3 with warm water	0	1	2	3	4	(5)	1.	
2.	Add a small pack of A-33	0	1	2	3	4	(5)	2.	
3.	Take housekeeping cart to patient room, get 2 clean cloths	0	1	2	3	4	(5)	3.	
4.	Remove loose soil, clean crevices between parts with damp cloth (from bucket)	0	1	2	3	4	(5)	4.	
5.	Wipe all metal, wood upholstery with damp cloth (from bucket) rub hard on built on grime, top to bottom	0	1	2	3	4	(5)	5.	
6.	Spray all purpose polish on wood, metal and plastic surfaces	0	1	2	3	4	(5)	6.	
7.	Wipe surfaces with dry cloth, no steaks	0	1	2	3	4	(5)	7.	
8.	Inspect work-look over all surfaces, spot wipe/polish	0	1	2	3	4	(5)	8.	
9.	Return bucket and cart to storeroom and empty bucket (if you are finished with all rooms)	0	1	2	3	4	(5)	9.	

Housekeeping Tasks

Task: Cleaning counters, shelves, and cabinets

Actions	Very different	Very much like		Comments
1. Fill 10 qt. bucket 2/3 with warm water	0 1 2 3 4 (5)		1.	
2. Add a small pack of A-33	0 1 2 3 4 (5)		2.	
3. Take housekeeping cart to patient room, get 1 clean cloth	0 1 2 3 4 (5)		3.	
4. Move small items (clothes, nick nacks) to one side of shelf or counter.	0 1 2 3 4 (5)		4.	
5. Wipe all surfaces, doors with damp cloth (from bucket)	0 1 2 3 4 (5)		5.	
6. Let 1/2 surface of shelves dry, move items to clean side, wipe second side.	0 1 2 3 4 (5)		6.	
7. Return items to original location	0 1 2 3 4 (5)		7.	
8. Inspect work-look over all surfaces, spot wipe	0 1 2 3 4 (5)		8.	
9. Return bucket and cart to the storeroom and empty bucket (if you are finished with all rooms)	0 1 2 3 4 (5)		9.	

Housekeeping Tasks

Task: Cleaning a drinking fountain

Actions	Very different					Very much like	Comments
1. Fill 10 qt. bucket 2/3 with warm water	0	1	2	3	4	(5)	1.
2. Add a small pack of A-33	0	1	2	3	4	(5)	2.
3. Take housekeeping cart to patient room, get 2 clean cloths	0	1	2	3	4	(5)	3.
4. Use small brush to clean water jet, button, drain	0	1	2	3	4	(5)	4.
5. Wipe all surfaces with damp cloth (from bucket)	0	1	2	3	4	(5)	5.
6. Spray all surfaces with all purpose polish	0	1	2	3	4	(5)	6.
7. Wipe all surfaces with dry cloth, no streaks	0	1	2	3	4	(5)	7. Dry Fountain Jet
8. Inspect work, look over all surfaces, spot/wipe polish	0	1	2	3	4	(5)	8.
9. Return bucket and cart to storeroom and empty bucket (if you are finished with all rooms)	0	1	2	3	4	(5)	9.

Task: Cleaning a patient bed

	Action	Very different 0 1 2 3 4 Very much like		Comments
1.	Fill 10 qt. bucket 2/3 with warm water	0 1 2 3 4 (5)	1.	
2.	Add a small pack of A-33	0 1 2 3 4 (5)	2.	
3.	Take housekeeping cart to patient room, get 2 clean cloths	0 1 2 3 4 (5)	3.	
4.	Move bed away from wall, raise to maximum height	0 1 2 3 4 (5)	4.	
5.	Wipe with damp cloth (from bucket); headboard, foot board, mattress, side rails, springs, motor	0 1 2 3 4 (5)	5.	
6.	Spray all purpose polish on head board, foot board, side rails	0 1 2 3 4 (5)	6.	
7.	Wipe head board, foot board, side rails with dry cloth no streaks	0 1 2 3 4 (5)	7.	
8.	Inspect work-look over all parts, spot wipe/polish	0 1 2 3 4 (5)	8.	
9.	Return bed up against wall	0 1 2 3 4 (5)	9.	
10.	Return bucket and cart to to storeroom and empty bucket (if you are finished with all rooms)	0 1 2 3 4 (5)	10.	

University of Pittsburgh

SCHOOL OF EDUCATION
Department of Special Education

January 23, 1985

Dear Housekeepers and Janitors,

We are planning to do a study at Kane Regional Center, McKeesport teaching mentally retarded students to damp wipe the furniture and fixtures in patient rooms (housekeeping tasks) and to mop the floors in rooms and areas on the ground floor of Kane Regional. We would like to have two housekeepers and two janitors tell us whether the actions to be taught to our students are like the actions used by housekeepers and janitors at Kane Regional.

Please fill out the forms we've provided by circling the number which describes whether each action on the form is "very much like" or "very different" from the way you would do it. You may also help us by telling us how you would do the actions in the space provided for comments. Thank you for helping us develop our study.

Sincerely,

Woody Woolcock

Woody Woolcock
Steven R. Lyon
Department of Special Education
5M22 Forbes Quadrangle
University of Pittsburgh
Pittsburgh, PA 15260

WW:aa

5M01 FORBES QUADRANGLE, 230 S. BOUQUET STREET, PITTSBURGH, PA 15260

Housekeeping Tasks

Task: Cleaning sinks and lavatories

	Actions	Very different ... Very much like	Comments
1.	Fill 10 qt. bucket 2/3 with warm water	0 1 2 3 4 (5)	1.
2.	Add a small pack of A-33	0 1 2 3 4 (5)	2.
3.	Take housekeeping cart to patient room, get 2 clean cloths	0 1 2 3 4 (5)	3.
4.	Add about 1/2 cup of sani-flush to toilet	0 1 2 3 4 (5)	4.
5.	Move small items (brushes etc.) off shelves - place on floor	(0) 1 2 3 4 5	5. Placed on bed and chair.
6.	Wipe all fixtures, plumbing, dispensers, shelves with damp cloth (from bucket)	0 1 2 3 4 (5)	6.
7.	Spray all purpose polish on chrome and stainless steel	0 1 2 3 4 (5)	7.
8.	Wipe chrome and stainless steel with a dry cloth, no streaks	0 1 2 3 4 (5)	8.
9.	Swish toilet brush in toilet and under rim-flush	0 1 2 3 4 (5)	9.
10.	Inspect work-look over all parts-spot wipe/ polish	0 1 2 3 4 (5)	10.
11.	Return bucket and cart to the storeroom and empty bucket (if you are finished with all rooms)	0 1 2 3 4 (5)	11.

Housekeeping Tasks

Task: Cleaning a wheelchair

Actions	Very different				Very much like	Comments
1. Fill 10 qt. bucket 2/3 with warm water	0	1	2	3	4 (5)	1.
2. Add a small pack of A-33	0	1	2	3	4 (5)	2.
3. Take housekeeping cart to patient room, get a clean cloth	0	1	2	3	4 (5)	3.
4. Move the wheelchair away from walls and furniture	0	1	2	3	4 (5)	4.
5. Wipe the wheelchair with damp cloth from top to bottom	0	1	2	3	4 (5)	5.
6. Inspect work-look over all parts-spot wipe	0	1	2	3	4 (5)	6.
7. Move the wheelchair to it's original location	0	1	2	3	4 (5)	7.
8. Return bucket and cart to the storeroom and empty bucket (if you are finished with all rooms)	0	1	2	3	4 (5)	8.
9. If wheelchair is broken or missing a part-tell the nursing supervisor	0	1	2	3	4 (5)	9.

Housekeeping Tasks

Task: Cleaning chair, stand, tray table

	Actions	Very different				Very much like		Comments
1.	Fill 10 qt., bucket 2/3 with warm water	0	1	2	3	4 (5)	1.	
2.	Add a small pack of A-33	0	1	2	3	4 (5)	2.	
3.	Take housekeeping cart to patient room, get 2 clean cloths	0	1	2	3	4 (5)	3.	
4.	Remove loose soil, clean crevices between parts with damp cloth (from bucket)	0	1	2	3	4 (5)	4.	
5.	Wipe all metal, wood upholstery with damp cloth (from bucket) rub hard on built on grime, top to bottom	0	1	2	3	4 (5)	5.	
6.	Spray all purpose polish on wood, metal and plastic surfaces	0	1	2	3	4 (5)	6.	
7.	Wipe surfaces with dry cloth, no steaks STREAKS	0	1	2	3	4 (5)	7.	
8.	Inspect work-look over all surfaces, spot wipe/polish	0	1	2	3	4 (5)	8.	
9.	Return bucket and cart to storeroom and empty bucket (if you are finished with all rooms)	0	1	2	3	4 (5)	9.	

Housekeeping Tasks

Task: Cleaning counters, shelves, and cabinets

Actions	Very different					Very much like		Comments
1. Fill 10 qt. bucket 2/3 with warm water	0	1	2	3	4	(5)	1.	
2. Add a small pack of A-33	0	1	2	3	4	(5)	2.	
3. Take housekeeping cart to patient room, get 1 clean cloth	0	1	2	3	4	(5)	3.	
4. Move small items (clothes, nick nacks) to one side of shelf or counter.	0	1	2	3	4	(5)	4.	
5. Wipe all surfaces, doors with damp cloth (from bucket)	0	1	2	3	4	(5)	5.	
6. Let 1/2 surface of shelves dry, move items to clean side, wipe second side.	0	1	2	3	4	(5)	6.	
7. Return items to original location	0	1	2	3	4	(5)	7.	
8. Inspect work-look over all surfaces, spot wipe	0	1	2	3	4	(5)	8.	
9. Return bucket and cart to the storeroom and empty bucket (if you are finished with all rooms)	0	1	2	3	4	(5)	9.	

Housekeeping Tasks

Task: Cleaning a drinking fountain

Actions	Very different					Very much like	Comments
1. Fill 10 qt. bucket 2/3 with warm water	0	1	2	3	4	(5)	1.
2. Add a small pack of A-33	0	1	2	3	4	(5)	2.
3. Take housekeeping cart to patient room, get 2 clean cloths	0	1	2	3	4	(5)	3.
4. Use small brush to clean water jet, button, drain	0	1	2	3	4	(5)	4.
5. Wipe all surfaces with damp cloth (from bucket)	0	1	2	3	4	(5)	5.
6. Spray all surfaces with all purpose polish	0	1	2	3	4	(5)	6. also Dry Service
7. Wipe all surfaces with dry cloth, no streaks	0	1	2	3	4	(5)	7.
8. Inspect work, look over all surfaces, spot/wipe polish	0	1	2	3	4	(5)	8.
9. Return bucket and cart to storeroom and empty bucket (if you are finished with all rooms)	0	1	2	3	4	(5)	9.

Housekeeping Tasks

Task: Cleaning a patient bed

	Action	Very different					Very much like		Comments
1.	Fill 10 qt. bucket 2/3 with warm water	0	1	2	3	4	(5)	1.	
2.	Add a small pack of A-33	0	1	2	3	4	(5)	2.	
3.	Take housekeeping cart to patient room, get 2 clean cloths	0	1	2	3	4	(5)	3.	
4.	Move bed away from wall, raise to maximum height	0	1	2	3	4	(5)	4.	
5.	Wipe with damp cloth (from bucket); headboard, foot board, mattress, side rails, springs, motor	0	1	2	3	4	(5)	5.	And all parts under springs
6.	Spray all purpose polish on head board, foot board, side rails	0	1	2	3	4	(5)	6.	
7.	Wipe head board, foot board, side rails with dry cloth no streaks	0	1	2	3	4	(5)	7.	
8.	Inspect work-look over all parts, spot wipe/polish	0	1	2	3	4	(5)	8.	
9.	Return bed up against wall	0	1	2	3	4	(5)	9.	
10.	Return bucket and cart to to storeroom and empty bucket (if you are finished with all rooms)	0	1	2	3	4	(5)	10.	

University of Pittsburgh

SCHOOL OF EDUCATION
Department of Special Education

January 23, 1985

Dear Housekeepers and Janitors,

We are planning to do a study at Kane Regional Center, McKeesport teaching mentally retarded students to damp wipe the furniture and fixtures in patient rooms (housekeeping tasks) and to mop the floors in rooms and areas on the ground floor of Kane Regional. We would like to have two housekeepers and two janitors tell us whether the actions to be taught to our students are like the actions used by housekeepers and janitors at Kane Regional.

Please fill out the forms we've provided by circling the number which describes whether each action on the form is "very much like" or "very different" from the way you would do it. You may also help us by telling us how you would do the actions in the space provided for comments. Thank you for helping us develop our study.

Sincerely,

Woody Woolcock

Steven R. Lyon

Woody Woolcock
Steven R. Lyon
Department of Special Education
5M22 Forbes Quadrangle
University of Pittsburgh
Pittsburgh, PA 15260

WW:aa

Janitorial Tasks

Task: Mopping a small room - move furniture

	Action	Very different	Very much like	Comments
1.	Fill 44 qt. caster bucket 2/3 warm water	0 1 2	3 (4) 5	1.
2.	Throw in large pack A-33	0 1 2	(3) 4 5	2.
3.	Take 24 inch dust mop, dust pan, pick-up brush, putty knife to room	0 1 2	3 4 (5)	3.
4.	Push bucket, mop in bucket to room, take caution sign	0 1 2	3 4 (5)	4.
5.	Move moveable furniture into hall (chairs, lamps etc.) don't move moveable	(0) 1 2	3 4 5	5. We pull away from wall clean and put them back.
6.	Place caution sign at entrance	0 1 2	3 4 (5)	6.
7.	Dust mop from far end using small "S" strokes, scrape up gum etc. with putty knife	0 1 2	3 4 (5)	7.
8.	Pick up dust pile with dust pan-pick-up brush	0 1 2	3 (4) 5	8.
9.	Mop floor with damp mop (from bucket) far end to entrance, along baseboards, small "S" strokes in middle	0 1 2	3 4 (5)	9.
10.	Return furniture to original placement	0 1 2	3 4 (5)	10.
11.	Inspect floor, spot mop	0 1 2	3 4 (5)	11.
12.	Return equipment, empty bucket (if last room mopped)	0 1 2	3 4 (5)	12.

Kay D. Wall 1-25-85

Janitorial Tasks

Task: Large room/area - move furniture

	Actions	Very different ... Very much like	Comments
1.	Fill 44 qt. caster bucket 2/3 warm water	0 1 2 3 4 (5)	1.
2.	Throw in large pack A-33	0 1 2 3 4 (5)	2.
3.	Take 48 inch dust mop, dust pan, pick-up brush, putty knife to room/area	0 1 2 3 4 (5)	3.
4.	Push bucket, mop in bucket to room, take 2 caution signs	0 1 2 3 4 (5)	4.
5.	Move moveable furniture to clear about 1/3 of room/area	0 1 2 (3) 4 5	5.
6.	Place caution signs each end of cleared area	0 1 2 3 (4) 5	6.
7.	Dust mop cleared area, push mop straight ahead. Scrape up gum etc. with putty knife	0 1 2 3 (4) 5	7.
8.	Pick up dust pile with dust pan-pick-up brush	0 1 2 3 4 (5)	8.
9.	Mop floor with damp mop (from bucket) from far end of area, move backwards with large "S" stroke, repeat opposite directions until area mopped	0 1 2 3 (4) 5	9.
10.	When dry, move furniture to clear new area(s) repeat actions 6-9	0 1 2 (3) 4 5	10.
11.	Return furniture to original placement	0 1 2 3 (4) 5	11.

Task: Large room/area - move furniture continued

	Actions	Very different 0 1 2 3 4 5 Very much like		Comments
12.	Inspect floor, spot mop	0 1 2 3 (4) 5	11.	
13.	If person walks on wet floor spot mop	0 1 (2) 3 4 5	13.	
14.	Return equipment, empty bucket (if last room mopped)	0 1 2 3 (4) 5	12.	

Janitorial Tasks

Task: Mid size room - move furniture

	Actions	Very different — Very much like	Comments
1.	Fill 44 qt. caster bucket 2/3 warm water	0 1 2 3 4 (5)	1.
2.	Throw in large pack A-33	0 1 2 3 4 (5)	2.
3.	Take 36 inch dust mop, dust pan, pick-up brush, putty knife to room	0 1 2 3 4 (5)	3.
4.	Push bucket, mop in bucket to room, take 2 caution signs	0 1 2 3 4 (5)	4.
5.	Move furniture to mop 1/2 room away from entrance first	0 1 (2) 3 4 5	5.
6.	Place caution signs each end of cleared area	0 1 2 3 4 (5)	6.
7.	Dust mop cleared area, push mop straight ahead. Scrape up gum etc. with putty knife	0 1 2 3 (4) 5	7.
8.	Pick up dust pile with dust pan-pick up brush	0 1 2 3 4 (5)	8.
9.	Mop floor with damp mop (from bucket) from far end of area, move backwards with large "S" stroke, repeat opposite directions until area is mopped	0 1 2 3 4 (5)	9.
10.	When dry, move furniture to clear second 1/2 of room, repeat actions 6-9	0 (1) 2 3 4 5	10.
11.	Return furniture to original placement	0 1 2 3 (4) 5	11.

Task: Mid size room - move furniture continued

Actions	Very different					Very much like	Comments
12. Insoect floor, spot mop	0	1	2	3	(4)	5	12.
13. If person walks on wet floor spot mop	0	1	(2)	3	4	5	13.
14. Return equipment, empty bucket (if last room mopped)	0	1	2	3	4	(5)	14.

Janitorial Tasks

Task: Mid size room - don't move furniture

	Actions	Very different 0 1 2 3 4 5 Very much like	Comments
1.	Fill 44 qt. caster bucket 2/3 warm water	0 1 2 3 4 (5)	1.
2.	Throw in large pack A-33	0 1 2 3 4 (5)	2.
3.	Take 36 inch dust mop, dust pan, pick-up brush, putty knife to room	0 1 2 3 4 (5)	3.
4.	Push bucket, mop in bucket to room, take 2 caution signs	0 1 2 3 4 (5)	4.
5.	Don't move unmoveable objects (PT bars, OT tables etc.)	0 1 2 3 4 (5)	5.
6.	Place caution signs each end of 1/2 room	0 1 2 3 4 (5)	6.
7.	Dust mop start away from entrance, push mop straight ahead. Scrape up gum etc. with putty knife	0 1 2 3 4 (5)	7.
8.	Pick up dust pile with dust pan-pick-up brush	0 1 2 3 4 (5)	8.
9.	Mop 1/2 floor with damp mop (from bucket) from far end of area, move backwards with large "S" stroke, repeat opposite direction until area is mopped	0 1 2 3 4 (5)	9.
10.	When dry, move signs to second 1/2 of room, mop second 1/2	0 1 (2) 3 4 5	10.

Janitorial Tasks

Task: Mid size room - don't move furniture continued

	Actions	Very different 0 1 2 3 4 5 Very much like		Comments
11.	Inspect floor, spot mop	0 1 2 3 (4) 5	11.	
12.	If person walks on wet floor spot mop	0 1 2 3 (4) 5	12.	
13.	Return equipment, empty bucket (if last room mopped)	0 1 2 3 4 (5)	13.	

Janitorial Tasks

Task: Mopping a small room - don't move furniture

	Action	Very different 0 1 2 3 4 5 Very much like	Comments
1.	Fill 44 qt. caster bucket 2/3 warm water	0 1 2 3 4 (5)	1.
2.	Throw in large pack A-33	0 1 2 3 4 (5)	2.
3.	Take 24 inch dust mop, dust pan, pick-up brush, putty knife to room	0 1 2 3 4 (5)	3.
4.	Push bucket, mop in bucket to room, take caution sign	0 1 2 3 4 (5)	4.
5.	Don't move heavy furniture, equipment	0 1 2 (3) 4 5	5.
6.	Place caution sign at entrance	0 1 2 3 4 (5)	6.
7.	Dust mop from far end using small "S" strokes, scrape up gum etc. with putty knife	0 1 2 3 4 (5)	7.
8.	Pick up dust pile with dust pan-pick-up brush	0 1 2 3 4 (5)	8.
9.	Mop floor with damp mop (from bucket) far end to entrance, along baseboards, small "S" strokes in middle	0 1 2 3 4 (5)	9.
10.	Inspect floor, spot mop	0 1 2 3 (4) 5	10.
11.	Return equipment, empty (if last room mopped)	0 1 2 3 4 (5)	11.

Janitorial Tasks

Task: Mopping large areas (hallways) - no furniture

	Actions	Very different — Very much like	Comments
1.	Fill 44 qt. caster bucket 2/3 warm water	0 1 2 3 4 (5)	1.
2.	Throw in large pack A-33	0 1 2 3 4 (5)	2.
3.	Take 48 inch dust mop, dust pan, pick-up brush, putty knife to area	0 1 2 3 4 (5)	3.
4.	Push bucket, mop in bucket to area, take 2 caution signs	0 1 2 3 4 (5)	4. 3 CAUTION SIGNS
5.	Dust mop entire hall push mop straight ahead, scrape up gum etc. with putty knife	0 1 2 3 4 (5)	5.
6.	Pick up dust pile with dust pan-pick-up brush	0 1 2 3 4 (5)	6.
7.	Place caution signs at each end of area to be mopped 1/2 of hall length	0 1 2 3 4 (5)	7. EACH END AND MIDDLE
8.	Mop floor with damp mop (from bucket), move backwards with large "S" stroke mopping 1/2 of hall length, repeat opposite direction down other 1/2	0 1 2 3 (4) 5	8.
9.	Inspect floor, spot mop	0 1 2 3 (4) 5	9.
10.	If person walks on wet floor spot mop	0 1 2 (3) 4 5	10.
11.	Return equipment, empty bucket (if last area mopped)	0 1 2 3 4 (5)	11.

University of Pittsburgh

SCHOOL OF EDUCATION
Department of Special Education

January 23, 1985

Dear Housekeepers and Janitors,

We are planning to do a study at Kane Regional Center, McKeesport teaching mentally retarded students to damp wipe the furniture and fixtures in patient rooms (housekeeping tasks) and to mop the floors in rooms and areas on the ground floor of Kane Regional. We would like to have two housekeepers and two janitors tell us whether the actions to be taught to our students are like the actions used by housekeepers and janitors at Kane Regional.

Please fill out the forms we've provided by circling the number which describes whether each action on the form is "very much like" or "very different" from the way you would do it. You may also help us by telling us how you would do the actions in the space provided for comments. Thank you for helping us develop our study.

Sincerely,

Woody Woolcock

Steven R. Lyon

Woody Woolcock
Steven R. Lyon
Department of Special Education
5M22 Forbes Quadrangle
University of Pittsburgh
Pittsburgh, PA 15260

WW:aa

5M01 FORBES QUADRANGLE, 230 S. BOUQUET STREET, PITTSBURGH, PA 15260

Janitorial Tasks

Task: Mopping a small room - move furniture

	Action	Very different	Very much like	Comments
1.	Fill 44 qt. caster bucket 2/3 warm water	0 1 2	3 (4) 5	1.
2.	Throw in large pack A-33	0 1 2	(3) 4 5	2.
3.	Take 24 inch dust mop, dust pan, pick-up brush, putty knife to room	0 1 2	3 4 (5)	3.
4.	Push bucket, mop in bucket to room, take caution sign	0 1 2	3 4 (5)	4.
5.	Move moveable furniture into hall (chairs, lamps etc.) don't move moveable	(0) 1 2	3 4 5	5.
6.	Place caution sign at entrance	0 1 2	3 4 (5)	6.
7.	Dust mop from far end using small "S" strokes, scrape up gum etc. with putty knife	0 1 2	3 4 (5)	7.
8.	Pick up dust pile with dust pan-pick-up brush	0 1 2	3 4 (5)	8.
9.	Mop floor with damp mop (from bucket) far end to entrance, along baseboards, small "S" strokes in middle	0 1 2	3 4 (5)	9.
10.	Return furniture to original placement	0 1 2	3 4 (5)	10.
11.	Inspect floor, spot mop	0 1 2	3 (4) 5	11.
12.	Return equipment, empty bucket (if last room mopped)	0 1 2	3 4 (5)	12.

Janitorial Tasks

Task: Large room/area - move furniture

	Actions	Very different 0 1 2 3 4 5 Very much like	Comments
1.	Fill 44 qt. caster bucket 2/3 warm water	0 1 2 3 4 (5)	1.
2.	Throw in large pack A-33	0 1 2 (3) 4 5	2.
3.	Take 48 inch dust mop, dust pan, pick-up brush, putty knife to room/area	0 1 2 (3) 4 5	3.
4.	Push bucket, mop in bucket to room, take 2 caution signs	0 1 2 3 4 (5)	4.
5.	Move moveable furniture to clear about 1/3 of room/area	0 1 2 3 4 (5)	5.
6.	Place caution signs each end of cleared area	0 1 2 3 4 (5)	6.
7.	Dust mop cleared area, push mop straight ahead. Scrape up gum etc. with putty knife	0 1 2 3 4 (5)	7.
8.	Pick up dust pile with dust pan-pick-up brush	0 1 2 3 4 (5)	8.
9.	Mop floor with damp mop (from bucket) from far end of area, move backwards with large "S" stroke, repeat opposite directions until area mopped	0 1 2 3 4 (5)	9.
10.	When dry, move furniture to clear new area(s) repeat actions 6-9	0 1 2 3 4 (5)	10.
11.	Return furniture to original placement	0 1 2 3 4 (5)	11.

Janitorial Tasks

Task: Large room/area - move furniture continued

	Actions	Very different 0 1 2 3 4 5 Very much like	Comments
12.	Inspect floor, spot mop	0 1 2 3 (4) 5	11.
13.	If person walks on wet floor spot mop	0 1 2 (3) 4 5	13. Judge if it was done.
14.	Return equipment, empty bucket (if last room mopped)	0 1 2 3 4 (5)	12.

Janitorial Tasks

Task: Mid size room - move furniture

	Actions	Very different 0 1 2 3 4 5 Very much like	Comments
1.	Fill 44 qt. caster bucket 2/3 warm water	0 1 2 3 4 (5)	1.
2.	Throw in large pack A-33	0 1 2 (3) 4 5	2.
3.	Take 36 inch dust mop, dust pan, pick-up brush, putty knife to room	0 1 2 (3) 4 5	3.
4.	Push bucket, mop in bucket to room, take 2 caution signs	0 1 2 3 4 (5)	4.
5.	Move furniture to mop 1/2 room away from entrance first	0 1 2 3 4 (5)	5.
6.	Place caution signs each end of cleared area	0 1 2 3 4 (5)	6.
7.	Dust mop cleared area, push mop straight ahead. Scrape up gum etc. with putty knife	0 1 2 3 4 (5)	7.
8.	Pick up dust pile with dust pan-pick up brush	0 1 2 3 4 (5)	8.
9.	Mop floor with damp mop (from bucket) from far end of area, move backwards with large "S" stroke, repeat opposite directions until area is mopped	0 1 2 3 4 (5)	9.
10.	When dry, move furniture to clear second 1/2 of room, repeat actions 6-9	0 1 2 3 4 (5)	10.
11.	Return furniture to original placement	0 1 2 3 4 (5)	11.

Task: Mid size room - move furniture continued

Actions	Very different					Very much like	Comments
12. Inspect floor, spot mop	0	1	2	3	(4)	5	12.
13. If person walks on wet floor spot mop	0	.	2	(3)	4	5	13.
14. Return equipment, empty bucket (if last room mopped)	0	1	2	3	4	(5)	14.

Janitorial Tasks

Task: Mid size room - don't move furniture

	Actions	Very different 0 1 2 3 4 5 Very much like	Comments
1.	Fill 44 qt. caster bucket 2/3 warm water	0 1 2 3 4 (5)	1.
2.	Throw in large pack A-33	0 1 2 (3) 4 5	2.
3.	Take 36 inch dust mop, dust pan, pick-up brush, putty knife to room	0 1 2 (3) 4 5	3.
4.	Push bucket, mop in bucket to room, take 2 caution signs	0 1 2 3 4 (5)	4.
5.	Don't move unmoveable objects (PT bars, OT tables etc.)	0 1 2 3 4 (5)	5.
6.	Place caution signs each end of 1/2 room	0 1 2 3 4 (5)	6.
7.	Dust mop start away from entrance, push mop straight ahead. Scrape up gum etc. with putty knife	0 1 2 3 4 (5)	7.
8.	Pick up dust pile with dust pan-pick-up brush	0 1 2 3 4 (5)	8.
9.	Mop 1/2 floor with damp mop (from bucket) from far end of area, move backwards with large "S" stroke, repeat opposite direction until area is mopped	0 1 2 3 4 (5)	9.
10.	When dry, move signs to second 1/2 of room, mop second 1/2	0 1 2 3 4 (5)	10.

Task: Mid size room - don't move furniture continued

	Actions	Very different					Very much like	Comments
11.	Inspect floor, spot mop	0	1	2	(3)	4	5	11.
12.	If person walks on wet floor spot mop	0	1	2	(3)	4	5	12.
13.	Return equipment, empty bucket (if last room mopped)	0	1	2	3	4	(5)	13.

Janitorial Tasks

Task: Mopping a small room - don't move furniture

	Action	Very different				Very much like		Comments
1.	Fill 44 qt. caster bucket 2/3 warm water	0	1	2	3	4	(5)	1.
2.	Throw in large pack A-33	0	1	2	(3)	4	5	2.
3.	Take 24 inch dust mop, dust pan, pick-up brush, putty knife to room	0	1	2	3	4	(5)	3.
4.	Push bucket, mop in bucket to room, take caution sign	0	1	2	3	4	(5)	4.
5.	Don't move heavy furniture, equipment	0	1	2	3	4	(5)	5.
6.	Place caution sign at entrance	0	1	2	3	4	(5)	6.
7.	Dust mop from far end using small "S" strokes, scrape up gum etc. with putty knife	0	1	2	3	4	(5)	7.
8.	Pick up dust pile with dust pan-pick-up brush	0	1	2	3	4	(5)	8.
9.	Mop floor with damp mop (from bucket) far end to entrance, along baseboards, small "S" strokes in middle	0	1	2	3	4	(5)	9.
10.	Inspect floor, spot mop	0	1	2	(3)	4	5	10.
11.	Return equipment, empty (if last room mopped)	0	1	2	3	4	(5)	11.

Janitorial Tasks

Task: Mopping large areas (hallways) - no furniture

	Actions	Very different 0 1 2 3 4 5 Very much like	Comments
1.	Fill 44 qt. caster bucket 2/3 warm water	0 1 2 3 4 (5)	1.
2.	Throw in large pack A-33	0 1 2 (3) 4 5	2.
3.	Take 48 inch dust mop, dust pan, pick-up brush, putty knife to area	0 1 2 (3) 4 5	3.
4.	Push bucket, mop in bucket to area, take 2 caution signs	0 1 2 3 4 (5)	4.
5.	Dust mop entire hall push mop straight ahead, scrape up gum etc. with putty knife	0 1 2 3 4 (5)	5.
6.	Pick up dust pile with dust pan-pick-up brush	0 1 2 3 4 (5)	6.
7.	Place caution signs at each end of area to be mopped 1/2 of hall length	0 1 2 3 4 (5)	7.
8.	Mop floor with damp mop (from bucket), move backwards with large "S" stroke mopping 1/2 of hall length, repeat opposite direction down other 1/2	0 1 2 3 4 (5)	8.
9.	Inspect floor, spot mop	0 1 2 (3) 4 5	9.
10.	If person walks on wet floor spot mop	0 1 2 (3) 4 5	10.
11.	Return equipment, empty bucket (if last area mopped)	0 1 2 3 4 (5)	11.

APPENDIX D

Data Sheets

DATA SHEET

Subject: _____

Task Sequence:
Damp Wiping

Response Example:
Cleaning Wheelchairs

Type of Session:
Probe (P)
Simulation Instruction (S)
Actual Job Instruction (A)

Key:
3=Independent
2=Verbal Instruction
1=Physical Guidance
0=Incorrect (Probe Only)

Generic Responses / Components	Dates:
a. Fill 10qt. bucket 2/3*	
b. Add small pack A-33*	
c. Take cart to room*	
1. Total--Take Supplies*	
a. Move wheelchair	
2. Total--Position Equipment	
a. Damp wipe surfaces	
b. Scour off grime	
3. Total--Wash	
a. Look over all parts	
b. Repeat 3 (if need)	
4. Total--Inspect Work	
a. Return wheelchair	
b. Return cart*	
c. Empty bucket*	
5. Total--Return Supplies	
6. Planned exception	
*Once per session	
Type of Session	
Staff Initials	
Δ O	

DATA SHEET

Subject: _____

Task Sequence:
Damp Wiping

Response Example:
Cleaning Sinks and Lavatories

Type of Session:
Probe (P)
Simulation Instruction (S)
Actual Job Instruction (A)

Key:
3=Independent
2=Verbal Instruction
1=Physical Guidance
0=Incorrect (Probe Only)

Generic Responses / Components	Dates:
a. Fill 10qt bucket 2/3*	
b. Add small pack A-33*	
c. Take cart to room*	
1. Total--Take Supplies*	
a. ½c. Sani-flush in toilet	
b. Small items to bed, chair	
2. Total--Move Small Items	
a. Damp wipe surfaces	
b. Swish brush and under rim	
3. Total--Wash	
a. Spray--bright metal	
b. Wipe--plumbing etc.	
4. Total--Polish	
a. Look over all parts	
b. Repeat 3 & 4 (if need)	
5. Total--Inspect Work	
a. Return small items	
b. Return cart*	
c. Empty bucket*	
6. Total--Return Supplies	
*Once per session	
Type of Session	
Staff Initials	

DATA SHEET

Subject: _____

Type of Session:
Probe (P)
Simulation Instruction (S)
Actual Job Instruction (A)

Key:
3=Independent
2=Verbal Instruction
1=Physical Guidance
0=Incorrect (Probe Only)

Task Sequence:
Damp Wiping

Response Example:
Cleaning Counters, Shelves, Cabinets

Generic Responses / Components	Dates:
a. Fill 10qt bucket 2/3*	
b. Add small pack A-33*	
c. Take cart to room*	
1. Total--Take Supplies*	
a. Move small items--1 side	
2. Total--Move Small Itms	
a. Wipe ½ shelves, Counters	
b. Repeat 2a/3a return	
c. Wipe doors, drawers	
3. Total--Wash	
a. Look over all parts	
b. Repeat 3 (if need)	
4. Total--Inspect Work	
a. Return small items	
b. Return cart*	
c. Empty bucket*	
5. Total--Return Supplies	
*Once per session	
Type of Session	
Staff Initials	

DATA SHEET

Subject: _____

Task Sequence:

Damp Wiping

Response Example:

Cleaning Patient Bed

Type of Session:
Probe (P)
Simulation Instruction (S)
Actual Job Instruction (A)

Key:
3=Independent
2=Verbal Instruction
1=Physical Guidance
0=Incorrect (Probe Only)

Generic Responses	Dates:
Components	
a. Fill 10qt. bucket 2/3*	
b. Add small pack A-33*	
c. Take cart to room*	
1. Total--Take Supplies*	
a. Move bed from wall	
b. Raise bed (if need)	
2. Total--Position	
Equipment	
a. Wipe head/foot	
b. Wipe rails, mattress, under	
3. Total--Wash	
a. Spray head/foot/rails	
b. Wipe-dry cloth	
4. Total--Polish	
a. Look over all parts	
b. Repeat 3 & 4 (if need)	
5. Total--Inspect Work	
a. Return bed	
b. Return cart*	
c. Empty bucket*	
6. Total--Return Supplies	
*Once per session	
Type of Session	
Staff Initials	

DATA SHEET

Subject: _____

Task Sequence:
Damp Wiping

Response Example:
Cleaning Chair, Stand, Tray Table

Type of Session:
Probe (P)
Simulation Instruction (S)
Actual Job Instruction (A)

Key:
3=Independent
2=Verbal Instruction
1=Physical Guidance
0=Incorrect (Probe Only)

Generic Responses / Components	Dates:
a. Fill 10qt bucket 2/3*	
b. Add small pack A-33*	
c. Take cart to room*	
1. Total--Take Supplies*	
a. Move furniture	
b. Small items to bed	
2. Total--Position Equipment	
a. Remove loose soil	
b. Damp wipe surfaces	
3. Total--Wash	
a. Spray--wood, metal, plastic	
b. Wipe sprayed surfaces	
4. Total--Polish	
a. Look over all parts	
b. Repeat 3 & 4 (if need	
5. Total--Inspect Work	
a. Return equipment	
b. Return cart*	
c. Empty bucket*	
6. Total--Return Supplies	
*Once per session	
Type of Session	
Staff Initials	

DATA SHEET

Subject: _____

Task Sequence:
Damp Wiping

Response Example:
Cleaning Drinking Fountain

Type of Session:
Probe (P)
Simulation Instruction (S)
Actual Job Instruction (A)

Key:
3=Independent
2=Verbal Instruction
1=Physical Guidance
0=Incorrect (Probe Only)

Generic Responses	Dates:
Components	
a. Fill 10qt bucket 2/3*	
b. Add small pack A-33*	
c. Take cart to room*	
1. Total--Take Supplies*	
a. Brush jet, button, drain	
b. Wipe all parts, dry	
2. Total--Wash	
a. Spray all surfaces	
b. Wipe--dry cloth	
3. Total--Polish	
a. Look over all parts	
b. Repeat 2 & 3 (if need)	
4. Total--Inspect Work	
a. Return cart*	
b. Empty bucket*	
5. Total--Return Supplies	
*Once per session	
Type of Session	
Staff Initials	

DATA SHEET

Subject: _____

Task Sequence:

Floor Mopping

Response Example:

Mopping a Small Room--Move Furniture

Type of Session:
Probe (P)
Simulation Instruction (S)
Actual Job Instruction (A)

Key:
3=Independent
2=Verbal Instruction
1=Physical Guidance
0=Incorrect (Probe Only)

Generic Responses / Components	Dates:
a. Fill 44 qt. bucket 2/3*	
b. Dust mop etc. to room	
c. Bucket/mop/sign to room	
1. Total--Take Supplies	
a. Sign at entrance	
2. Total--Place Sign	
a. Dust mop	
b. Scrape gum etc.	
c. Pick-up-pan & brush	
3. Total--Dust Mop	
a. Move furniture from wall	
b. Move furniture to wall	
c. Don't move desk etc.	
4. Total--Move Furniture	
a. Mop--outside of room	
b. Mop--center of room	
5. Total--Mop Floor	
a. Look at all surfaces	
b. Spot mop (if need)	
6. Total--Inspect work	
a. Return equipment*	
b. Empty bucket*	
7. Total--Return Supplies	
*Once per session (change water when dirty)	
Type of Session	
Staff Initials	

△ ○

DATA SHEET

Subject: _____

Task Sequence:
Floor Mopping
Response Example:
Mopping a Large Room/Area--Move Furniture

Type of Session:
Probe (P)
Simulation Instruction (S)
Actual Job Instruction (A)

Key:
3=Independent
2=Verbal Instruction
1=Physical Guidance
0=Incorrect (Probe Only)

Generic Responses / Components	Dates:
a. Fill 44 qt. Bucket 2/3*	
b. Dust mop etc. to room*	
c. Bucket/mop/3 signs to rm*	
1. Total--Take Supplies*	
a. Move furniture 1/3 rm	
b. Don't move desks etc.	
2. Total--Move Furniture	
a. Signs--ends & middle	
b. Move to new area	
3. Total--Place signs	
a. Dust mop	
b. Scrape gum etc.	
c. Pick-up-pan & brush	
4. Total--Dust mop	
a. Mop--along baseboards	
b. Mop--open section	
5. Total--Mop Floor	
a. Repeat 2, 3, 4, 5	
b. Repeat 2, 3, 4, 5	
c. Return furniture	
6. Total--Return Furntr.	
a. Look at all surfaces	
b. Spot mop (if need)	
7. Total--Inspect Work	
a. Spot mop marks (if nd)	
8. Total--Planned Except.	
a. Return equipment*	
b. Empty bucket*	
9. Total--Return Supplies*	
Type of Session	
Staff Initials	

*Once per session

ge water when dirty)

DATA SHEET

Subject: _____

Task Sequence:

Floor Mopping

Response Example:

Mopping a Mid Size Room--Don't Move Furniture

Type of Session:
Probe (P)
Simulation Instruction (S)
Actual Job Instruction (A)

Key:
3=Independent
2=Verbal Instruction
1=Physical Guidance
0=Incorrect (Probe Only)

Generic Responses	Dates:
Components	
a. Fill 44 qt bucket 2/3*	
b. Dust mop etc. to room*	
c. Bucket/Mop/3 signs to room*	
1. Total--Take Supplies	
a. Don't move heavy objs	
2. Total--Move Furniture	
a. Signs--end & middle ½ room	
b. Move to new area	
3. Total--Place signs	
a. Dust mop	
b. Scrape gum etc.	
c. Pick-up-pan & brush	
4. Total--Dust Mop	
a. Mop--along baseboards	
b. Mop--½ floor	
5. Total--Mop floor	
a. Repeat--3 & 4	
6. Total--Recycle	
a. Look at all surfaces	
b. Spot mop (if need)	
7. Total--Inspect Work	
a. Return equipment*	
b. Empty bucket*	
8. Total-Return Supplies*	
*Once per session (change water when dirty)	
Type of Session	
Staff Initials	

DATA SHEET

Subject: _____

Task Sequence:
Floor Mopping

Response Example:
Mopping a Mid Size Room--Move Furniture

Type of Session:
Probe (P)
Simulation Instruction (S)
Actual Job Instruction (A)

Key.
3=Independent
2=Verbal Instruction
1=Physical Guidance
0=Incorrect (Probe Only)

Generic Responses	Dates:
Components	
a. Fill 44qt bucket 2/3	
b. Dust mop etc. to room	
c. Bucket/Mop/3 signs to rm.	
1. Total--Take Supplies	
a. Move furniture ½ room	
b. Don't move desk etc.	
2. Total--Move Furniture	
a. Signs--ends & middle	
b. Move to new area	
3. Total--place signs	
a. Dust mop	
b. Scrape gum etc.	
c. Pick-up-pan & brush	
4. Total--Dust Mop	
a. Mop--along baseboards	
b. Mop--open section	
5. Total--Mop Floor	
a. Repeat 2, 3, 4, 5	
b. Return furniture	
6. Total--Return Furntr.	
a. Look at all surfaces	
b. Spot mop (if need)	
7. Total--Inspect Work	
a. Return equipment*	
b. Empty bucket*	
9. Total--Return Supplies	
*Once per session	
(change water when dirty)	
Type of Session	
Staff Initials	

DATA SHEET

Subject: _____

Task Sequence:

Floor Mopping

Response Example:

Mopping a Small Room--Don't Move Furniture

Type of Session:
Probe (P)
Simulation Instruction (S)
Actual Job Instruction (A)

Key:
3=Independent
2=Verbal Instruction
1=Physical Guidance
0=Incorrect (Probe Only)

Generic Responses / Components	Dates:
a. Fill 44 qt. bucket 2/3*	
b. Dust mop etc. to room*	
c. Bucket/Mop/Sign to room*	
1. Total--Take Supplies*	
a. Don't move heavy objs	
2. Total--Move Furniture	
a. Dust mop	
b. Scrape gum etc.	
c. Pick-up-pan & brush	
3. Total--Dust Mop	
a. Mop--along baseboards	
b. Mop--center of room	
4. Total--Mop Floor	
a. Look at all surfaces	
b. Spot mop (if need)	
5. Total--Inspect Work	
a. Return equipment*	
b. Empty bucket*	
6. Total--Return Supplies	
*Once per session (change water when dirty)	
Type of Session	
Staff Initials	

DATA SHEET

Subject: _____

Task Sequence:

Floor Mopping

Response Example:

Mopping a Large Area (Hallway)--No Furniture

Type of Session:
Probe (P)
Simulation Instruction (S)
Actual Job Instruction (A)

Key:
3=Independent
2=Verbal Instruction
1=Physical Guidance
0=Incorrect (Probe Only)

Generic Responses / Components	Dates:
a. Fill 44 qt. Bucket 2/3	
b. Dust mop etc. to area	
c. Bucket/mop/3 signs to area*	
1. Total--Take Supplies*	
a. Dust mop entire hall	
b. Scrape gum etc.	
c. Pick-up-pan & brush	
2. Total--Dust Mop	
a. Signs-ends, middle ½ length	
3. Total--Place Signs	
a. Mop 1st ½ hall	
b. Mop 2nd ½ hall	
4. Total--Mop Floor	
a. Look at all surfaces	
b. Spot mop (if need)	
5. Total--Inspect Work	
a. Exception--spot mop (if need)	
6. Total--Exception	
a. Return equipment*	
b. Empty bucket*	
7. Total--Return Supplies*	
*Once per session (change water when dirty)	
Type of Session	
Staff Initials	

APPENDIX D

Scheduling Matrix

Scheduling Matrix

Simulation Instruction/Weekly Probe. Instructor/Data Collector Schedule - 2 Week Cycle

Subject/ Group	Baseline Probe Schedule A.M.	P.M.	Task Sequence	Monday A.M.	P.M.	Tuesday A.M.	P.M.	Wednesday A.M.	P.M.	Thursday A.M.	P.M.	Friday A.M.	P.M.	Monday A.M.	P.M.	Tuesday A.M.	P.M.	Wednesday A.M.	P.M	Thursday A.M.	P.M.	Friday A.M.	P.M.
S1/1	Damp wiping: Actual Job	Simulation	damp wiping	A/B	X	hp A/B	X	D	X	A	X	A/L	X	D	X	hp D	X	B/C	X	C	X	C	X
	Floor mopping: Simulation	Actual Job	floor mopping	X	C/D	X	D	X	C	X	jp B	X	B/D	X	B	X	B	X	A/D	X	jp D/B	X	D
S2/11	Damp wiping: Simulation	Actual Job	damp wiping	X	B/A	X	hp A/C	X	A	X	A	X	C/A	X	C	X	D/C	X	C/B	X	C	X	A
	Floor mopping: Actual Job	Simulation	fluor mopping	D/C	X	D	X	B	X	jp C	X	D/B	X	A	X	B	X	D/A	X	jp D	X	B	X
S3/1	Damp wiping: Actual Jub	Actual Job	damp wiping	A	X	C	X	D/A	X	A	X	A	X	D/C	X	hp C/A	X	B	X	C	X	C/A	X
	Floor mopping: Simulation	Simulation	floor mopping	X	C	X	D	X	C/B	X	jp C/D	X	B	X	B/A	X	B	X	A	X	jp A	X	D/B
S4/11	Damp wiping: Simulation	Actual Job	damp wiping	X	B	X	hp B	X	A/D		A	X	C	X	C/D	X	hp X	X	C	X	C	X	A/C
	Flour mopping. Actual Job	Simulation	flour mopping	D	X	D	X	B/L	X	B/D	X	D	X	A/B	X	B	X	D	X	B/A	X	jp B/D	X

Codes: Housekeeping Probe = HP
Janitorial Probe = JP
Instructors/Data Collectors = ABCD
(inst uctor listed first and single letters)

APPENDIX F

Supervisor Evaluation Form

DEPARTMENT OF FEDERAL PROGRAMS
TRAINING & EMPLOYMENT CENTER

176

EVALUATION FORM

STUDENTS NAME _____ DATE _____

NO. OF WEEKS IN PROGRAM _____

CLASS _____ _____ FINAL EVALUATION (Check if Applicable)

1. ATTENDANCE: GOOD _____

FAIR _____

POOR _____

COMMENTS:

2. ATTITUDE: WILLING TO WORK ____ YES ____ NO

NEEDS TO BE "PUSHED" ____ YES ____ NO

WORKS WELL WITH OTHERS ____ YES ____ NO

ACCEPTS CORRECTION AND CRITICISM ____ GOOD

____ FAIR

____ POOR

COMMENTS:

3. QUALITY OF WORK PERFORMED:

	EXCELLENT	GOOD	FAIR	POOR	UNABLE TO EVALUATE (State Reason)
THEORY	_____	____	____	____	_____
PRACTICUM	_____	____	____	____	_____

COMMENTS:

4. TEST RESULTS (Grade average) _____ NO. OF ACCUMULATIVE HRS. _____

COMMENTS:

5. PROGRESSING AS PLANNED ____ YES ____ NO

COMMENTS:

6. IN YOUR JUDGMENT, WILL THE TRAINEE BE EMPLOYABLE AFTER COMPLETION OF TRAINING?

_____ YES _____ NO IF NOT, EXPLAIN _____

_____

RLM/ah
3-84

General Case Simulation Instruction and the Establishment and Maintenance of Work Performance

William W. Woolcock, Steven R. Lyon,

and Karin P. Woolcock

University of Pittsburgh

Running Head: General Case Simulation Instruction

Requests for reprints may be addressed to William W. Woolcock, Department of Teacher Education, University of Arkansas at Little Rock, 33rd and University Avenue, Little Rock, AR, 72204.

Abstract

This study was conducted to determine whether general case simulation instruction on selected job task sequences and teaching examples, which sampled the range of stimulus/response variation encountered in two community jobs, resulted in the generalized performance of specific community job requirements by four young adults with severe handicaps. A multiple baseline across subjects and behaviors design was used to assess subject performance in simulation instruction, on concurrent and subsequent actual job probes, and in actual job instruction. Data indicated that simulation instruction on two representative teaching examples for each of two job task sequences resulted in concurrent generalized performance on six response examples for each task sequence, and in subsequent improvements in job entry skills which were maintained and extended during actual job instruction and instructor withdrawal phases. Results are discussed in terms of potential uses and misuses of general case simulations of community job skills.

General Case Simulation Instruction and the Establishment and Maintenance of Work Performance

Use of The "Supported Work Model" (Wehman & Kregel, 1985) for job placement and training of persons with severe handicaps has proven successful (e.g., Brown, Ford, et al., 1983; Schutz & Rusch, 1982; Sowers, Thompson, & Connis, 1979; Wehman et al., 1982). However the on-the-job training process frequently requires extended training prior to trainer withdrawal (e.g., an average of 181 hours, Wehman et al., 1983). Need for this extended training is attributed to three trainee difficulties: (a) lack of the required specific work skills; (b) lack of strength or stamina; and (c) inability to interact appropriately with other people on the job (Wehman et al., 1982, p.13). These problems provide support for "more effective pre-employment training and preparation" (Wehman & Hill, 1980, p.30).

Several sources (Bellamy, Rose, Wilson, & Clarke, 1982; Horner, McDonnell, Williams, & Vogelsberg, 1983; Renzaglia & Hutchins, 1985) indicate specific work skills preparation may include instruction on job or task sequences which sample the tasks, processes, and behavioral requirements that a person will later encounter on a specific job. By sampling the requirements of a particular job, specific work skills may generalize to a broader range of actual job requirements.

General case instruction is a method for selecting a minimum number of teaching examples which sample the range of stimulus variation present in a larger targeted class, or instructional universe, of untrained examples (Horner, Sprague, & Wilcox, 1982). This process has typically entailed the sequential teaching of representative stimulus examples to a pre-established criterion level, followed by the testing of generalized performance through the

introduction of untrained examples which provide all of the stimulus variations present in the instructional universe for a particular behavior (Horner & McDonald, 1982).

Although general case instruction has been used successfully to teach a variety of generalized responses in vocational (Horner & McDonald, 1982; Woolcock & Lengel, 1984) and community settings (Horner, Williams, & Steveley, 1984; Sprague & Horner, 1984), these studies reflect two methodological limitations. First, previous investigations in general case instruction have primarily utilized consecutive nontrained probes of an instructional universe following the attainment of training criteria on single instance, multiple instance, and/or general case teaching examples. Untrained probes were used as the sole dependent measure while training data were not presented graphically. Although performance on probe measures of an instructional universe may be the preferred dependent variable in general case instruction (Horner, 1982), the procedure fails to indicate a concurrent relationship between training and probe measures. Measurement of probe performance during training provides verification of the ongoing effects of training on generalized responding and serves as an indicator for the attainment of training criteria (Giangreco, 1983). Second, research in general case instruction has been restricted to the teaching of a single response (Horner & McDonald, 1982), or short sequences of responses (Horner, Williams, & Steveley, 1984; Sprague & Horner, 1984), rather than multiple responses or response sequences typically expected in community job situations.

Horner, McDonnell, and Bellamy (1984) indicated that by selecting simulation teaching examples that sample the range of relevant stimuli found in the natural environment, the general case for a community behavior may be efficiently taught in a simulation environment. McDonnell et al. (1984)

compared the effects of classroom simulation instruction, with simulation instruction combined with community instruction on generalized grocery purchasing skills. The successful presentation of concurrent community and simulation instruction in this study, and in a subsequent study of grocery item selection (McDonnell & Horner, 1984), indicates that concurrent community instruction and or probes on actual materials (Giangreco, 1983) may provide the "crucial connections" necessary for individuals with severe handicaps to relate simulation stimuli to generalized community performance requirements.

To date, research in simulation instruction has not addressed the application of general case simulations of specific job task sequences to specific jobs in a community. The present study was designed to determine the extent to which general case simulation instruction on two representative response examples, for each of two different janitorial and housekeeping task sequences, would result in improved independent performance on weekly probe measures of six response examples for each of the task sequences at an actual job site. Maintenance and further acquisition of the task sequences were measured during follow-up probes at the actual job site, instruction at the actual job site, and systematic withdrawal of instructor intervention and supervision at the actual job site.

Method

Subjects

Two students from a public school and two clients from an adult day program participated in this study. The public school students included a 19 year old male with a WISC IQ of 37 and a 21 year old female with a WISC IQ of 41. Neither of these students had received instruction on damp wiping or floor mopping prior to the initiation of this study. The adult day program clients included a 20 year old female with Down's Syndrome who had a WAIS IQ of 55 and a

24 year old male with Down's Syndrome who had a WAIS IQ of 54. The adult day program clients had been involved previously in simulated job instruction including damp wiping of kitchen fixtures and tables, and mopping of small floor areas using a small "S" stroke.

Settings

The study was conducted in two settings, a simulation site (at an adult day program) and an actual job site (at a large convalescent hospital). At the actual job site, housekeeping probes and instruction were conducted in second floor patient rooms assigned by nursing staff, and janitorial probes and instruction were conducted in the first floor rooms and areas usually mopped by entry-level janitors.

Materials

Simulation and actual job site damp wiping (housekeeping) and floor mopping (janitorial) supplies and equipment were located on housekeeping carts and in janitor's storage rooms at both sites. The equipment and supplies used at the simulation site were purchased for use in this study in an effort to replicate the materials used by janitors and housekeepers at the actual job site. Instructors and data collectors used clipboards containing data sheets for both task sequences for each subject.

Task Sequences

Task sequences commonly engaged in by nonhandicapped housekeepers and janitors at the actual job site were used. Tasks involved in damp wiping patient furniture and equipment, and floor mopping first floor rooms and areas were selected as instructional task sequences because they were the primary activities of housekeepers and entry-level janitors at the actual job site.

Specific tasks, defined as generic responses, which were included in both task sequences were derived from the hospital's housekeeping department

orientation manual, and from task analytic observations of a nonhandicapped housekeeper and a nonhandicapped janitor at the actual job site. Task sequences were validated by two housekeepers and two janitors indicating agreement or disagreement on a written description of each generic response in each task sequence across all probe and instructional response examples (See Table 1).

Insert Table 1 About Here

Response Examples

Generic responses in each task sequence were performed by nonhandicapped housekeepers and entry-level janitors on an array of response examples at the actual job site. In defining the "instructional universe" (Horner, et al., 1982, p.74) for the damp wiping (housekeeping) task sequence, six response examples were selected which represented the equipment and furnishings commonly damp wiped in patient rooms and hallways (drinking fountain). Similarly, the instructional universe for the floor mopping (janitorial) task sequence included six types of rooms and areas which represented the rooms and areas commonly mopped by entry-level janitors. By selecting rooms by common characteristics rather than specific rooms, subjects were assigned to mop unmopped rooms which shared common characteristics, although different rooms were assigned to each subject during each probe and instructional session.

Within the instructional universe for each task sequence, stimulus/response variations were defined for the performance of each generic response on all six response examples. Such variations typically involved deletion of a particular generic response, different materials used for different response examples, or

different response topographies used with different response examples (e.g., floor mopping with push-pull strokes or with large "S" strokes).

Based on this analysis, two representative response examples for each task sequence were selected as simulation response examples. Response examples were defined as: (a) two simulation response examples; (b) two simulation response examples - actual job, the simulation response examples at the actual job site; and (c) four actual response examples, including nontrained response examples at the actual job site.

Design.

The study employed a multiple baseline across subjects and behaviors design (Kazdin, 1973). Subject performance during each session was presented as the Percent Correct Independent Generic Responses performed at the independent level of assistance for all phases of the study: (a) baseline probe; (b) simulation instruction/weekly probe; (c) follow-up probe; (d) actual job instruction; and (e) instructor withdrawal phases.

Procedure

Baseline Probe. Baseline probe sessions conducted at the simulation site and actual job site measured each subject's initial nontrained performance of both task sequences. Dependent measures for each task sequence included Percent Correct Independent Generic Responses on: (a) two simulation response examples at the simulation site; (b) two similar simulation response examples - actual job, at the actual job site; and (c) four untrained actual response examples at the actual job site.

Simulation Instruction. Simulation instruction sessions provided each subject with instruction on two trials on each of two different simulation response examples. Simulation instruction on the damp wiping (housekeeping) task sequence was conducted in two men's and two women's bathrooms, and in a

small classroom (wheelchairs). Simulation instruction on the floor mopping (janitorial) task sequences was conducted in a small classroom and small pantry (small room - move furniture), and in a large activity room and large chapel (large room - move furniture) at the simulation site. Subjects 1 and 3 received instruction on housekeeping in the morning and janitorial instruction in the afternoon, while the order of instruction was reversed for subjects 2 and 4.

Individual decisions for terminating simulation instruction were based on criteria from Percent Correct Independent Generic Responses in simulation instruction sessions and weekly probe sessions. General guidelines for completing the simulation instruction phase, for each task sequence, included 90 Percent Correct Independent Generic Responses on the simulation response examples combined with 70 Percent Correct Independent Generic Responses on the simulation response examples - actual job and actual response examples during the next weekly probe session. Decision guidelines were adjusted to lower levels in instances where noncriteria subject performance indicated improved generalization following a prolonged simulation instruction phase.

Weekly Probes. Weekly probes of nontrained performance on all six response examples at the actual job site were conducted for both task sequences concurrent with simulation instruction. Weekly probe sessions, conducted individually with each subject, provided for the assessment of the generalized effects of simulation instruction across settings on the simulation response examples - actual job, and across materials on the four nontrained actual response examples. Probe sessions began with an instructional sequence for generic response number 1 "take supplies from cart, storeroom", which was not factored into the "Percent Correct Independent Generic Responses". After teaching generic response number 1, instructors assessed independent performance on the remaining generic responses for each response example. When failure to

perform a generic response resulted in the inability to complete the task sequence on a particular response example, the probe trial on that response example was terminated, all remaining generic responses scored as incorrect and probe measurement shifted to the next response example. The final generic response "Return Supplies" was performed at the end of each probe session and measured as a nontrained generic response. When subject failure to complete a task sequence occurred on the final response example in a probe session, the instructor signaled the end of the session at which time performance of "Return Supplies" was assessed.

Follow-up Probe. During the follow-up probe phase, two consecutive actual job probe sessions for each subject and task sequence, were conducted to assess maintenance of generalized independent subject performance of the simulation response examples - actual job and the actual response examples immediately following the simulation instruction/weekly probe phase.

Actual Job Instruction. The purpose of the actual job instruction phase was to provide subjects with needed additional individual instruction on all response examples for each task sequence at the actual job site. Subjects received least intrusive prompts instruction on all generic response components for each of the simulation response examples - actual job and actual response examples. Criteria for terminating the actual job instruction phase for each subject and task sequence were based on three consecutive sessions in which all simulation response examples - actual job and actual response examples were performed at 100 Percent Correct Independent Generic Responses.

Instructor Withdrawal. Following the actual job instruction phase on both task sequences, individual instructor contact was systematically withdrawn from subject 1 and subject 3 at the actual job site according to the following schedule of instructor withdrawal sub-phases:

1. Instructor and data collector escorted subject to a patient room for damp wiping and to the equipment room for floor mopping. The instructor and data collector remained in the patient room during damp wiping and within 15 feet of the subject during floor mopping, recording probe data (3 or 0), without interacting with the subject. Subject performance was reviewed at the end of each session through staff/subject discussion of correct performance and errors.

2. Instructor and data collector escorted each subject to a patient room (damp wiping) and to the equipment room (floor mopping). Subject performance of each response example was self-initiated with probe observations made from the hallway outside the patient room (damp wiping) and from a minimum distance of 15 feet (floor mopping). Subject performance was reviewed at the end of each session.

3. An instructor told subjects which patient room to damp wipe and rooms/areas to mop at the beginning of each session, without escort to the room(s). Probe data was collected from the hallway (damp wiping) and from a minimum of 15 feet (floor mopping). Subject performance was reviewed at the end of each session. Criteria for terminating each instructor withdrawal sub-phase were based on probe data indicating 100 Percent Correct Independent Generic Responses on all response examples during two consecutive sessions.

Data Collection

Following observer training and successful attainment of minimum 80% agreement four instructors/data collectors were assigned to different subjects, task sequences, and roles as instructor or data collector on a daily basis, and were rotated subsequently across subjects and tasks. Discrete trial procedural recording was used during each instructional session in which the performance of each generic response component was scored according to the level of assistance

provided by the instructor. Measurement of generic responses performed during instruction and probe sessions was converted to the percentage of generic responses performed at the independent (3) level, and percent correct independent generic responses were derived by dividing the total number of independent generic responses by the total number of generic responses measured and multiplying by 100.

Results

Interobserver Reliability

Interobserver reliability sessions were conducted during 104 or 35% of the 300 probe and instructional sessions conducted for all subjects, task sequences, and experimental phases. Levels of interobserver agreement were derived from a comparison of instructor and data collector agreement on the occurrence/nonoccurrence of generic response components and generic responses performed at the independent (3) level during each interobserver reliability session. Percent of interobserver agreement was determined by dividing the number of agreements by the number of agreements plus disagreements and multiplying by 100 for each interobserver reliability session. Interobserver agreement for all phases was 83 - 100%, x = 97%.

Baseline Probe

Figure 1 illustrates percent correct independent generic responses for housekeeping and janitorial task sequences, for all subjects during each phase of the study.

Insert Figure 1 About Here

During the baseline probe phase all four subjects demonstrated a general inability to perform either task sequence on the two simulation response examples and the six response examples at the actual job site.

Simulation Instruction/Weekly Probes

Duration of the simulation instruction/weekly probe phase ranged from 5 total sessions required for subject 1 to attain criteria on the janitorial task sequence to 32 total sessions for subject 4 prior to her entry into the follow-up probe phase on the janitorial task sequence. Subject 1 and 3 demonstrated criteria performance on all measures of both task sequences. Subject 4 attained criteria on the housekeeping task sequence and subject 2 on the janitorial task sequence while the simulation instruction/weekly probe phase was terminated after improved, yet not criteria level performances for subject 2 on the housekeeping task sequence and for subject 4 on the janitorial task sequence. Following subject 4's fifth janitorial weekly probe session, a reinforcement strategy (SR+) was instituted to attempt to increase her motivation to perform in janitorial simulation instruction. This strategy involved the use of a check sheet on which checks were placed to note an independent generic response. When subject 4's performance resulted in checks equalling or surpassing a gradually increasing number of checks she was permitted to eat her lunch in the cafeteria at the actual job site. Subject 4's performance in janitorial simulation instruction increased from 70% to 91% during the five sessions in which this strategy was implemented.

Follow-up Probes and Actual Job Instruction

In the follow-up probe phase, subjects 1 and 3 maintained criteria level percentages on the simulation response examples - actual job and actual response examples for both task sequences. Subjects 2 and 4 demonstrated variable

performance on follow-up probes, although subject 4 performed above criteria levels on both measures of the housekeeping task sequence.

Except for subject 4's performances of the housekeeping task sequence, subjects 2 and 4 began actual job instruction at percentage levels below 70 percent correct independent generic responses for the simulation response examples - actual job or the actual response examples for both task sequences. Due to the end of the school year actual job instruction was ended before subjects 2 and 4 had attained criteria on either task sequence, however, both subjects reached at least 90 percent on both measures of both task sequences prior to the end of the study.

Subjects 1 and 3 demonstrated continued high levels of correct performance on both task sequences during actual job instruction. The number of sessions required for each subject to reach actual job instruction criteria ranged from 5 sessions for subject 1, janitorial task sequence, to 11 sessions for subject 3, janitorial task sequence. Percent Correct Independent Generic Responses ranged from 75% for subject 3 on the simulation response examples - actual job, janitorial task sequence to 100% for subject 1 and subject 3 on all measures.

Following the attainment of criteria in actual job instruction an instructor withdrawal phase was instituted for subject 1 and subject 3 on both task sequences. The number of sessions required for subject 1 and subject 3 to reach criteria in the instructor withdrawal sub-phases ranged from 2 sessions in all sub-phases for subject 1, to 5 sessions required for subject 3 to reach criteria in the first sub-phase on both task sequences. Percent Correct Independent Generic Responses during the instructor withdrawal phase ranged from 72% for subject 3 on the actual response examples, housekeeping task sequence, to 100% performance in the three sub-phases for both subjects and task sequences.

Group Error Analysis

During probes of the housekeeping task sequence the highest error levels occurred on the patient bed: (a) 32%, subject 1; (b) 38.3%, subject 3; (c) 90%, subject 2; and (d) 57.7%, subject 4. Percentages of errors on individual generic responses which occurred when washing the patient bed ranged from 50% to 100%.

Similarly, highest error percentages during probes of the janitorial task sequence occurred on the large room - move furniture and midsize room - move furniture: (a) from 4.75%, subject 1 to 61.1%, subject 4 on the large room - move furniture, and (b) from 5.25% subject 1, to 58.2% subject 4 on the midsize room - move furniture. Highest common error percentages on individual generic responses occurred when placing caution signs in all rooms requiring furniture movement, ranging from 33% subject 1, to 75%, subject 4. Additionally, subject 2 demonstrated 75% errors when mopping the large room - move furniture and subject 4 demonstrated 100 percent errors when dust mopping and mopping the large room - move furniture.

High error percentages occurred on probe response examples and individual generic responses which differed primarily from the simulation response examples in the amount of behavior required and the decisions made when performing difficult generic responses. Although the generic response "wash" required damp wiping the underside of the simulation response examples, the amount of damp wiping required on the underside of the patient bed and the number of items to wash correctly presented subjects with behavioral expectations and decision requirements which vastly outnumbered those presented in simulation instruction. Similarly, the large room - move furniture at the actual job site required different decision making requirements than were required in repeated trials at the simulation site. Subjects were required to move small chairs in sections

during simulation instruction, and repeat the same arrangement during consecutive trials, whereas large chairs and tables had to be moved at the actual job site, and subjects were required to make new decisions about which sections to clear and mop during probes of the large room - move furniture and midsize room - move furniture.

Discussion

Generalized Acquisition

All subjects demonstrated varying degrees of acceleration to 90% or better on the simulation response examples for both task sequences. Weekly probes of subject 1's and subject 3's nontrained performance at the actual job site indicated that improvements on the simulation response examples - actual job and actual response examples coincided with previous performance improvements in simulation instruction. In the simulation instruction/weekly probe phase on the housekeeping task sequence, subject 1's and subject 3's weekly probe performances on the simulation response examples - actual job closely followed their performances in previous simulation instruction sessions. Of particular interest was the manner in which subject 1's and subject 3's weekly probe performances of the actual response examples, housekeeping task sequence, consistently fell below all other measures on a gradually accelerating trend until criteria was attained in their final weekly probe session.

In contrast to the stable acceleration of subjects 1 and 3, the performances of subjects 2 and 4 showed a higher degree of variability across sessions with several drops in percentage levels in successive sessions. Although the simulation instruction/weekly probe phase concluded with maximum percentage levels for both subjects, their acceleration on weekly probes was inconsistent from one weekly probe session to the next with less similarity to previous simulation instruction percentage levels.

Maintenance and Independent Job Performance

In the follow-up probe phase all subjects maintained performance levels similar to final weekly probes. However, subject 4's maintenance of the janitorial task sequence and subject 2's maintenance of both task sequences evidenced a greater degree of variability. This variability may be attributed to the termination of the simulation instruction/weekly probe phase without the attainment of weekly probe criteria for subject 2, housekeeping, and subject 4, janitorial.

Subjects 1 and 3 each entered the actual job instruction phase with high Percent Correct Independent Generic Response levels on both task sequences and extended their performances to attain criteria in the actual job instruction and instructor withdrawal phases. Subjects 2 and 4, however, entered the actual job instruction phase at lower percentage levels on both task sequences and, although their actual job instruction performance accelerated to 90% or better, the actual job instruction phase had to be terminated without their attainment of criteria on either of the task sequences due to the end of the school year.

In the instructor withdrawal phase, subjects 1 and 3 attained criteria in each sub-phase for both task sequences. When subject 1 had completed the instructor withdrawal phase on both task sequences and subject 3 on the housekeeping task sequence, they were permitted to remain at the actual job site to assist housekeepers on the patient floors and mop first floor rooms under the supervision of the director of housekeeping. At the conclusion of the study, subject 1 and subject 3 were each asked by the director of housekeeping to submit employment applications. Although subject 1's parents would not permit her to apply, subject 3 has applied and is awaiting funding for part-time employment.

Implications

In the present study, a minimum number of two simulation response examples which sampled the range of stimulus/response variation in the instructional universes of six response examples for each of two community job types were selected for use in general case simulation instruction. The procedures permitted the presentation of multiple trials on each simulation response example, and allowed the use of a group instructional strategy during each simulation instruction session. Concurrent weekly probes of each subject's performance across settings and on untrained response examples served to: verify the impact of simulation instruction on performance at the actual job site; permit the subjects to participate in a community environment during the simulation instruction/weekly probe phase; and aid in determining when simulation instruction sessions should be terminated. Use of weekly probes apparently assisted subjects in making the "crucial connections" (Giangreco, 1983, p.48) between simulation requirements and the generalized performance demands of the actual job. Procedures used in this study may provide a method for teaching selected specific job skills in a classroom or job training site, resulting in increased levels of generalized job entry skills, and diminished performance problems noted earlier. Specifically, concurrent simulation instruction with community probes allows direct training of specific job skills, builds strength and stamina, and provides opportunities for developing appropriate social interactions on the job.

Results of this study document the effectiveness of general case simulation instruction in producing generalized responding, yet subject performance was also influenced by factors inherent in the simulation instruction and weekly probe sessions. By providing least intrusive prompts instruction subjects were provided with instructional prompts to perform the desired generic responses upon initiation of incorrect generic responses. The redundancy of these prompts

eventually led to correct performance, thus simulation instruction performance improved as a function of repeated exposure to instructional stimuli and consequent least intrusive prompts. During weekly probe sessions subjects were exposed to a more reinforcing environment in which nonhandicapped workers interacted with the subjects, and free lunches were provided in the staff dining room. Although reinforcement was not provided during weekly probe sessions, twice a week access to the actual job environment may have influenced individual incentives to perform at high levels on weekly probes and achieve daily access to the actual job site.

Research Needs

The task sequences and teaching examples used in this study closely approximated the requirements of the community probe examples. Because of this close approximation the simulation instruction/weekly probe strategy did not sufficiently provide for an "examination of the specific characteristics of classroom simulations that do and do not lead to generalized responding " (McDonnell et al., 1984, p.131). Such research may examine different levels of environmental similarity and/or compare the levels of similarity in materials and behavioral requirements.

Although the simulation response examples in this study sampled the range of stimulus/response variation in the probe examples, common errors occurred on examples and generic responses which required a greater amount of behavior and a greater number of performance decisions. Subsequent research may investigate not only stimulus/response variations but variations in the amount of responding and the number of stimuli requiring performance decisions. Additionally, further research may extend the use of general case simulation instruction to other competitive job skills. Skills such as dish washing, preparation of food trays, and office or room cleaning etc. may be taught in a simulation

environment with concurrent and subsequent verification of skills on an actual job.

The differing rates and levels of acquisition and generalized performance of the subjects in this study may indicate the relative effectiveness of simulation instruction with higher functioning versus lower functioning learners. It is likely that stimulation instruction may provide an efficient, effective means of producing generalized community responding in persons with some prior experience and with higher individual levels of functioning. However, with persons who have no prior experience and who have lower measured levels of intelligence simulation instruction may not prove effective. This contention agrees with Bate's and Cuvo's (1985) inference that "students with more severe levels of retardation may require more frequent and extended amounts of community training to acquire and generalize community functioning skills most efficiently." (p.10).

Results of the present study suggest that effective simulations must be based on actual community performance requirements. This approach emphasizes the careful analysis of specific community environments rather than the arbitrary determination of skill requirements in isolated segregated environments. Simulations must target specific skills and environments as opposed to global approaches, common in some training programs, which teach the general skills deemed necessary without regard for the individual characteristics of specific community settings. Additionally, an on-going analysis of community performance must be conducted during simulation instruction to verify simulation procedures and content. This concern is of particular importance in light of the possibility that simulation instruction could hinder community access rather than assist in integrating persons with severe handicaps into community environments.

References

Bates, P. & Cuvo, A.J. (1985). Simulated and naturalistic instruction of community functioning skills with mentally retarded learners: The search for best practice. Unpublished Manuscript, Southern Illinois University: Carbondale.

Bellamy, G.T., Rose, H., Wilson, D.J., & Clarke, N.Y. (1982). Strategies for vocational preparation. In B. Wilcox & G.T. Bellamy (Eds.) Design of high school programs for severely handicapped students (pp 139-152). Baltimore: Paul H. Brookes.

Brown, L., Ford, A., Nisbet, J., Shiraga, B., VenDeventer, P., Sweet, M., & Loomis, R. (1983). Teaching severely handicapped students to perform meaningful work in nonsheltered vocational environments. Unpublished Manuscript, University of Wisconsin: Madison.

Giangreco, M.F. (1983). Teaching basic photography skills to a severely handicapped young adult using simulated materials. The Journal of the Association for the Severely Handicapped, 8(1), 43-49.

Horner, R.H. (1982, November). Teaching generalized behavior: Current research. Paper presented at the Ninth Annual Conference of the Association or the Severely Handicapped, Denver.

Horner, R.H. & McDonald, R.S. (1982). Comparison of single instance and general case instruction in teaching a generalized vocational skill. The Journal of the Association for the Severely Handicapped, 7(3),7-20.

Horner, R.H., McDonnell, J.J., & Bellamy, G.T. (1984). Teaching generalized skills: General case instruction in simulation and community settings. Unpublished manuscript, University of Oregon, Eugene, OR.

Horner, R.H., McDonnell, J., Williams, J., & Vogelsberg, T. (1983, November). Simulation training: Strategies for conducting in-class training that

results in adaptive performance in the community. Paper presented at the Tenth Annual Conference of the Association for the Severely Handicapped, San Francisco.

Horner, R.H., Sprague, J., Wilcox, B. (1982). General case programming for community activities. In B. Wilcox & G.T. Bellamy (Eds.). Design of high school programs for severely handicapped students, (p.p. 61-98). Baltimore: Paul H. Brookes.

Horner, R.H., Williams, J.A., & Steveley, J.D. (1984). Acquisition of generalized telephone use by students with severe mental retardation. Unpublished manuscript. University of Oregon, Eugene, OR.

Kazdin, A.E. (1973). Methodological and assessment considerations in evaluating reinforcement programs in applied settings. Journal of Applied Behavior Analysis, 6, 517-531.

McDonnell, J.J. & Horner, R.H. (1984). Effects of in vivo versus simulation-plus-in vivo training on the acquisition and generalization of grocery item selection by high school students with severe handicaps. Unpublished manuscript. University of Oregon: Eugene, OR.

McDonnell, J.J., Horner, R.H., & Williams, J.A. (1984). Comparison of three strategies for teaching generalized grocery purchasing to high school students with severe handicaps. The Journal of the Association for Persons with Severe Handicaps, 9,(2), 123-133.

Renzaglia,A. & Hutchins,M. (1985, April). Developing a vocational curriculum for school special education programs. Paper presented at the Second Annual Symposium: Supported Employment for Citizens Who are Mentally Retarded, Virginia Beach, VA.

Sowers, J., Thompson, L.E.,& Connis, R.T. (1979). The food service vocational training program: A model for training and placement of the mentally

retarded. In G.T.Bellamy, G.O'Connor, and C.C.Karan (Eds.) Vocational rehabilitation of severely handicapped persons: Contemporary service strategies(181-205). Baltimore: University Park Press.

Wehman, P. & Hill, M. (1980). Vocational training and placement of severely disabled persons, Vol. 2. Richmond, VA: Virginia Commonwealth University.

Wehman, P., Hill, M., Goodall, P., Cleveland, P., Brooke, V., & Pentecost, J.H. (1982). Job placement and follow-up of moderately and severely handicapped individuals after three years. The Journal of the Association for the Severely Handicapped, 7(2), 5-15.

Wehman, P. & Kregel, J. (1985). A supported work approach to competitive employment of individuals with moderate and severe handicaps. Journal of the Association for Persons with Severe Handicaps, 10 (1), 3-11.

Woolcock, W.W. & Lengel, M. (1984, November). A general case simulation of national zip code sorting by first and second digits: Acquisition, maintenance, and extension. Paper presented at the 11th Annual Conference of the Association for Persons with Severe Handicaps, Chicago.

Figure Caption

Figure 1. Multiple baseline across subjects and behaviors design. Percent correct independent generic responses on Housekeeping and Janitorial task sequences.

TABLE 1 TASK SEQUENCES AND RESPONSE EXAMPLES

Housekeeping	Janitorial
1. Take supplies from cart/storeroom	1. Take supplies from storeroom
2. Position equipment - move small items	2. Move furniture/don't move furniture
3. Wash	3. Place caution signs
4. Polish	4. Dust mop
5. Inspect work	5. Mop floor
6. Return supplies	6. Return furniture
	7. Inspect work
	8. Return supplies

Simulation Response Examples (△)

2 Wheelchairs	2 Small rooms - Move furniture
2 Sinks and Lavatories	2 Large rooms - Move furniture

Simulation Response Examples - Actual Job (○)

Wheelchair	Small room - Move furniture
Sink and Lavatory	Large room - Move furniture

Actual Response Examples (●)

Counter, Shelves, Cabinet	Small room - Don't move furniture
Chair, Stand Tray Table	Mid-size room - Move furniture
Patient Bed	Mid-size room - Don't move furniture
Drinking Fountain	Large Area (Hallway) - No furniture

Note: Examples of actual job site janitorial examples include: offices, examination rooms, locker rooms, bathrooms, classrooms, PT room, entrance area, snack bar, chapel, staff dining room etc.

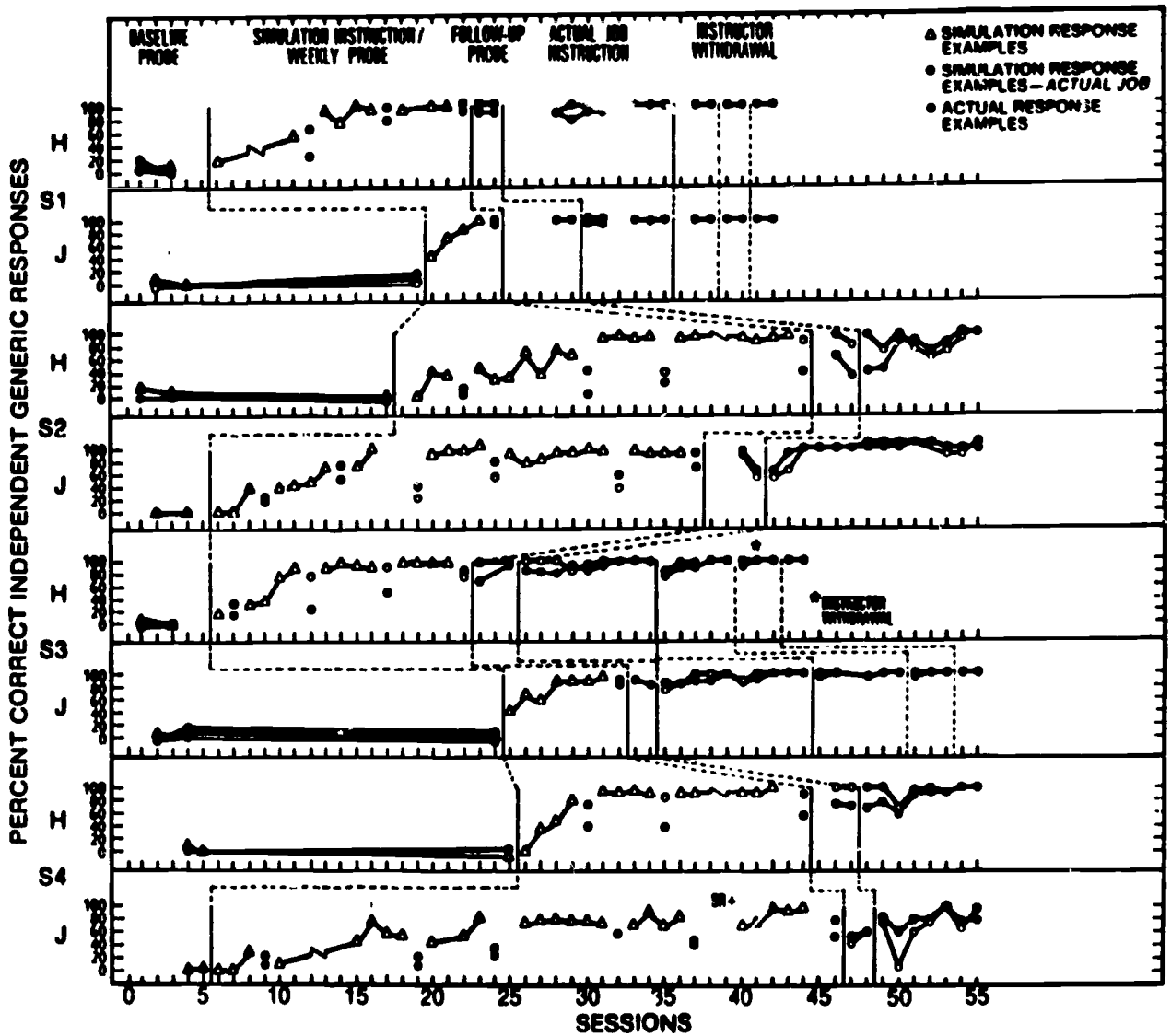


Figure 1 Multiple baseline across subjects and behaviors design. Percent correct independent generic responses on Housekeeping and Janitorial task sequences.